

DRAFT
Field Observations Report
AEP Kammer Plant and Mitchell Plant
Moundsville, WV
June 22 - 26, 2009

Prepared for:

U.S. Environmental Protection Agency
1200 Pennsylvania Avenue
Washington, DC



October 2009

Science Applications International Corporation (SAIC)
12100 Sunset Hills Road
Reston, VA 20190



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Submitted:
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Facility Name: AEP Kammer Plant and AEP Mitchell Plant

Kammer/Mitchell Plant Address: Route 2 South
Moundsville, WV 26041

Plant Owner: American Electric Power (AEP)

Owner Address: 1 Riverside Plaza
Columbus, OH 43215

Dates of Inspection/Sampling: June 22 - June 26, 2009

Inspectors: Martin Matlin, EPA Region 3 (Lead)
Van Housman, EPA HQ
Craig Yussen, EPA Region 3
Mark Nelson, EPA – Wheeling, WV Office
Clark Conover, EPA – Wheeling, WV Office
Joe Zollo, SAIC
Jim Rawe, SAIC
Brandon Peebles, SAIC

Point of Contact: Jeff Palmer, Environmental Lab Supervisor for
Kammer and Mitchell

1.0 Introduction

The Waste & Chemical Enforcement Division (WCED), Office of Civil Enforcement, in conjunction with the Office of Compliance and EPA Regions, has initiated an exploratory effort to investigate the extent to which companies in a variety of sectors may have engaged in the illegal disposal of hazardous waste in surface impoundments. This effort is consistent with WCED's goal to target and develop enforcement actions under the Resource Conservation and Recovery Act (RCRA), the Emergency Planning and Community Right-to-Know Act (EPCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), against persons engaged in significant non-compliance that substantially affects human health or the environment. WCED needs to gather and assess information related to surface impoundments; target facilities with surface impoundments based on risk and other factors; inspect and investigate activities at targeted facilities; develop enforcement actions as appropriate; and assess the data and other information gathered through these efforts.

2.0 Background

2.1 Purpose

EPA inspected the Kammer and Mitchell (Kammer-Mitchell) coal-fired power plants the week of June 22, 2009 to determine compliance with applicable RCRA, Clean Water Act (CWA), EPCRA and other statutes. The investigation focused on determining what types of wastes are generated, how the wastes are managed, and how the wastes are disposed of. Science Applications International Corporation (SAIC) assisted in the investigation by providing technical support for EPA. SAIC also collected water and soil samples at the facility. These samples were analyzed for compliance with RCRA, CWA, and other relevant statutes. This report summarizes the

activities performed by SAIC in support of EPA. Information in this report is based on interviews with Kammer-Mitchell personnel, site observations, and review of documents provided by facility personnel. Other sources of information are noted where applicable.

2.2 Site and Process Description

The Kammer-Mitchell facility is located approximately 25 miles south of Wheeling, West Virginia along the Ohio River in Moundsville, West Virginia. Figure 2-1 is an overhead photo of the plant site. The facility consists of two contiguous plants (see Figure 2-2) owned and operated by AEP Ohio. The facility operates 24 hours per day, 7 days per week with approximately 350 employees, some who work at both plants. The facility (station) can generate more than 2200 megawatts (MW); 1600 MW at the Mitchell plant and 630 MW at the Kammer plant. Table 2-1 describes the power generating units at Kammer-Mitchell.

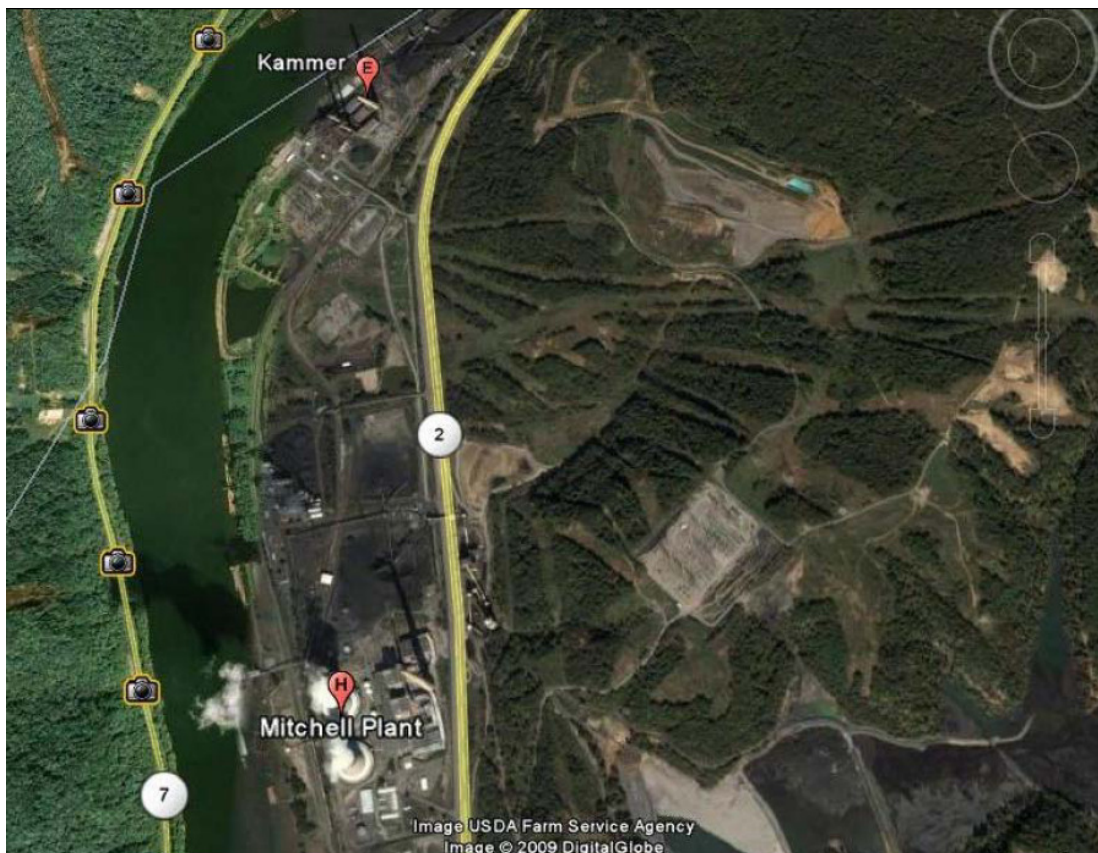


Figure 2-1. Overhead Photo of Kammer-Mitchell Facility

2.2.1 Kammer Plant

The Kammer plant (see Figure 2-3) utilizes approximately 1.8 million tons of blended coal: approximately 40 percent Powder River Basin (Wyoming) coal and 60 percent local West Virginia coal. Coal is transported to the Kammer site via Ohio River barge and blended on the coal pile. Coal is sent via conveyors through a crusher to bunkers which feed to the cyclone furnaces where air is mixed to facilitate combustion. Steam is formed in water tubes on the outside of the boiler and this steam is utilized to generate electricity at the main turbine (high

pressure) and then the first reheat turbine (high pressure). Recovered steam is reheated in the boiler and sent to a set of two low pressure turbines to recover excess heat. Steam is condensed and sent to a hot well to be reprocessed. Fuel oil from two 40,000-gallon aboveground storage tanks (ASTs) is utilized as startup and auxiliary fuel.

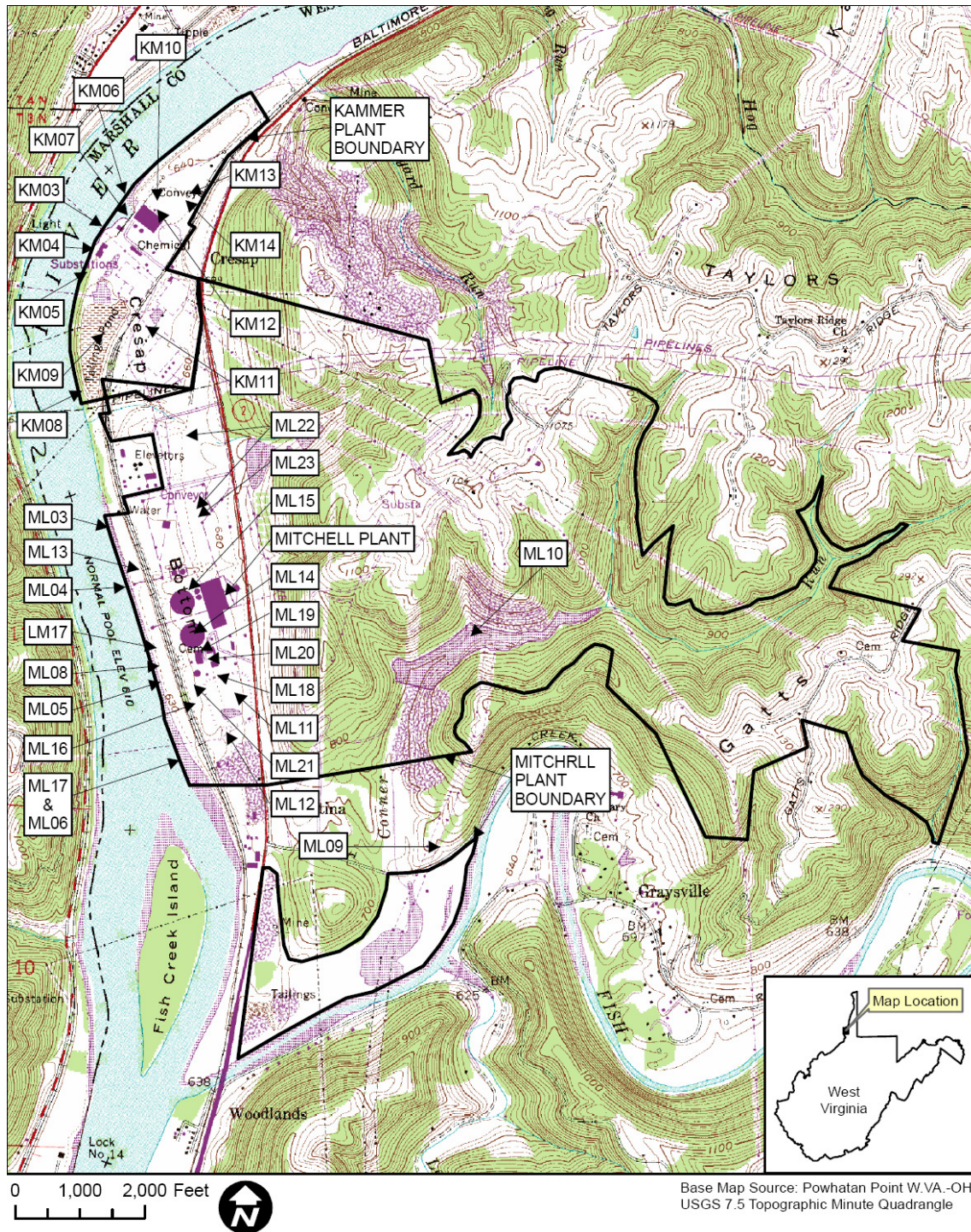


Figure 2-2. Facility Boundaries (Map Provided by AEP Ohio)

Table 2-1. Kammer-Mitchell Generating Units

| Unit Number | Size (MW) | Began Operation | Fuel | Burner Type | Particulate Control | NOx Control | SO ₂ Control |
|-------------|-----------|-----------------|------------|---------------|---------------------|-------------|-------------------------|
| K-1 | 210 | 1958 | Coal fired | Cyclone fired | ESP | Unknown | Trona |
| K-2 | 210 | 1959 | Coal fired | Cyclone fired | ESP | Unknown | Trona |
| K-3 | 210 | 1959 | Coal fired | Cyclone fired | ESP | Unknown | Trona |
| M-1 | ~800 | 1971 | Coal fired | Unknown | ESP | SCR | FGD |
| M-2 | ~800 | 1972 | Coal fired | Unknown | ESP | SCR | FGD |

ESP = electrostatic precipitator

SCR = selective catalytic reduction using ammonia

FGD = flue gas desulfurization using limestone slurry – produces gypsum for conveyor transport to an adjacent wallboard production facility (not owned by AEP Ohio Power Company)



Figure 2-3. Kammer Power Plant (North Side of Facility)

2.2.2 Mitchell Plant

The Mitchell plant (Figure 2-4) utilizes approximately 3.5 million tons of blended coal per year; McElroy (local West Virginia) and low-sulfur southern West Virginia coal (percentages not known) are blended. Local coal is provided by the adjacent Consolidated Coal McElroy Mine (Consul). Low-sulfur coal is transported via barge and rail cars and conveyed to silos. Cross-feeders are used to blend the coal before it is fed to pulverizers (six per unit). Air pickups are used to pneumatically transfer pulverized coal into the boilers. Steam powers a first reheat turbine (high pressure), then to reheat boiler before going to a second reheat turbine (high pressure). Subsequently steam is sent to two low pressure turbines for final heat recovery. Steam is condensed and recycled as makeup water. The fuel oil is shipped via river barge then transferred to a 1.5-million gallon AST and two 500,000-gallon ASTs which are used for startups and auxiliary power.



Figure 2-4. Mitchell Power Plant (South End of Facility)

2.3 Major Raw Materials and Waste Streams

In addition to coal and fuel oil described in the previous section, Mitchell adds limestone to the coal for SO₂ control. Limestone is also used at the Mitchell plant as part of the FGD system to

control SO₂. At the Kammer plant, Trona (trisodium hydrogendicarbonate dihydrate) is injected into flue gases to control SO₂. At the Mitchell plant, urea is heated to produce ammonia used in the SCRs for NO_x control. Sulfuric acid is added to wastewater to adjust pH. Table 2-2 summarizes the major raw materials used at the Kammer-Mitchell facility. Tables 2-3 and 2-4 identify major waste streams at the Kammer and Mitchell plants, respectively.

Table 2-2. Kammer-Mitchell Major Raw Materials Used

| Raw Material | 2008 Usage | Units | Purpose |
|-----------------|-------------|---------|--|
| Coal | 5,300,000 * | Tons | Boiler fuel |
| Fuel Oil | Not known | Gallons | Boiler fuel |
| Natural Gas | Not known | CF | Boiler fuel |
| Limestone | 234,246 | Tons | Flue gas desulfurization |
| Urea | 6,909 | Tons | Produce ammonia for NO _x removal from stack gases |
| Trona | 6,233 | Tons | SO ₂ removal from stack gas |
| Lubricating Oil | Not known | Gallons | Equipment lubrication |

* Annual usage for 2008 based on TRI data provided to EPA/SAIC inspectors.

3.0 Daily Activities

3.1 Monday June 22nd – Project Kickoff Meeting

The entire inspection team traveled on Monday, June 22nd. The Science Applications International Corporation (SAIC) team of Joe Zollo, Jim Rawe, and Brandon Peebles met with Martin Matlin and Van Housman of the Environmental Protection Agency (EPA) on Monday evening. A brief meeting was held to discuss an agenda for the inspections and sampling during the week.

3.2 Tuesday June 23rd – Process Overview, Document Review, and Plant Inspection

On Tuesday morning, June 23rd, Mark Nelson and Clark Conover from the EPA Region 3 Wheeling office met the rest of the inspection team at the hotel. After brief introductions, the entire EPA/SAIC inspection team departed for the Kammer-Mitchell facility. The inspection team arrived at the Mitchell facility at 8:58 AM. Mr. Matlin introduced himself to the security guards at the entrance and announced that EPA planned to conduct an unannounced inspection of both facilities. Jeff Palmer, Environmental Lab Supervisor, was the point of contact for the inspection team. Mr. Palmer along with Al Smith, Energy Production Superintendent, met the entire inspection team in a conference room in the administrative building. Introductions were then made between the EPA/SAIC inspection team and the Kammer/Mitchell representatives. Mr. Matlin stated the intent of the inspection, presented his credentials, and began the opening conference. After the opening conference, the question and answer session about both facilities began. Mr. Palmer and Mr. Smith provided the inspection team with detailed background and process information on the Kammer and Mitchell plants over the next two hours. After a short lunch break, Mr. Palmer asked the inspection team to take a short safety briefing before going on the plant inspection. The plant safety checklist briefing started at 1:00 PM and lasted approximately five minutes. The inspection team put on the required safety equipment and performed a site inspection of the Mitchell plant with Kammer-Mitchell representatives.

| KAMMER PLANT WASTE STREAMS | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Waste Stream | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | |
| | Disposed | Recycled | Disposed | Recycled | Disposed | Recycled | Disposed | Recycled | Disposed | Recycled |
| Fly ash (Ton) | 48,830 | 0 | 48,807 | 0 | 41,787 | 0 | 49,481 | 0 | 42,555 | 0 |
| Boiler slag (Ton) | 0 | 61,285 | 0 | 77,569 | 0 | 67,390 | 0 | 150,786 | 0 | 172,473 |
| Industrial/municipal solid waste (Ton) | 494 | 0 | 559 | 0 | 593 | 0 | 195 | 0 | 374 | 0 |
| Hazardous waste (Lbs) | 1,366 | 0 | 626 | 0 | 320 | 0 | 2,815 | 0 | 550 | 0 |
| Universal waste/lead-acid batteries (Lbs) | 0 | 344 | 0 | 7,268 | 0 | 3,560 | 0 | 2,477 | 0 | 31,297 |
| PCB Waste (Lbs) | 695 | 0 | 439 | 0 | 924 | 0 | 2711 | 0 | 2407 | 0 |
| Used oil (Gals) | 0 | 6,484 | 0 | 8,707 | 0 | 14,643 | 0 | 6,787 | 0 | 7,114 |
| Metal cleaning waste (Gals) | 100,000 | 0 | 100,000 | 0 | 300,000 | 0 | 100,000 | 0 | 200,000 | 0 |
| Scrap metal (Ton) | 0 | 354 | 0 | 404 | 0 | 301 | ND | ND | ND | ND |

Table 2-3. Summary of Kammer Plant Major Waste Streams

| MITCHELL PLANT WASTE STREAMS | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Waste Stream | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | |
| | Disposed | Recycled | Disposed | Recycled | Disposed | Recycled | Disposed | Recycled | Disposed | Recycled |
| Gypsum (Ton) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 219,697 | 291 | 366,594 |
| Fly ash (Ton) | 418,549 | 1,943 | 309,089 | 350 | 348,209 | 0 | 362,653 | 0 | 440,665 | 0 |
| Coal Slurry (Ton)* | 506,084 | 0 | 656,500 | 0 | 700,000 | 0 | 625,000 | 0 | 672,000 | 0 |
| Bottom ash (Ton) | 23,193 | 49,136 | 19,086 | 80,631 | 18,327 | 14,250 | 16,268 | 0 | 22,028 | 20 |
| Industrial/municipal solid waste (Ton) | 539 | 0 | 878 | 0 | 870 | 0 | 25 | 0 | 538 | 0 |
| Hazardous waste (Lbs) | 2,720 | 0 | 4,782 | 0 | 10,602 | 0 | 10,776 | 0 | 4,000 | 0 |
| Universal waste/lead-acid batteries (Lbs) | 0 | 2,341 | 0 | 2,166 | 0 | 2,290 | 0 | 1,030 | 0 | 1,184 |
| PCB Waste (Lbs) | 16,518 | 0 | 87,213 | 0 | 454,810 | 0 | 678 | 0 | 59,800 | 0 |
| Used oil (Gals) | 770 | 6,837 | 0 | 6,379 | 4,300 | 15,770 | 0 | 19,580 | 0 | 13,106 |
| Metal cleaning waste (Gals) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Scrap metal (Ton) | 0 | 305 | 0 | 1,706 | 0 | 1,935 | ND | ND | ND | ND |

* Produce by coal company but co-managed in the fly ash impoundment.

Table 2-4. Summary of Mitchell Plant Major Waste Streams

Areas inspected include:

- filter cake/press (aka “dry cookie material”)
- supplemental fuel tank
- stack and cooling towers
- 180-day hazardous waste/PCB storage area
- used oil storage area
- paint shed
- dumpster area
- FGD lab
- turbine area
- maintenance shop and the Safety Kleen parts washer.

At the end of the facility walk-through, the EPA/SAIC inspection team regrouped, drafted a list of documents that were needed for review, and provided the list to Mr. Palmer. The EPA/SAIC inspection left the site at approximately 4:00 PM.

3.3 Wednesday June 24th – Document Review and Plant Inspection

On Wednesday morning, June 24th, the EPA/SAIC inspection team arrived on-site at 8:00 AM. The team met with Wayne Irons, Plant Manager, who was out of the office the previous day. In addition to Mr. Irons, other American Electric Power (AEP) representatives from the corporate headquarters in Columbus, Ohio, who were present, included Ms. Janet Henry (Legal Department) and Mr. Alan Wood (Manager, Water and Ecological Section). After brief introductions, the inspection team watched the safety briefing video at 8:35 AM. The video lasted only a few minutes. At 9:10 AM, Mr. Palmer and Mr. Irons took the inspection team on the rest of the Mitchell plant walk-through.

Areas inspected include:

- main coal pile and coal pile sump
- main limestone pile
- bottom ash pond
- Clearwell Pond and discharge point to outfall 001
- outfall 006 at the stormwater/secondary containment pond
- stormwater outfall 007
- sewage treatment area
- outfall 001 at the Ohio River
- surface impoundment and discharge point to outfall 004
- outfall 004
- precipitators.

At 1:54 PM, the inspection team began the Kammer plant inspection. The team inspected:

- bottom ash pond
- cooling tower
- wastewater treatment basin and discharge point to outfall 004
- outfall 003
- outfall 005

- outfall 006
- outfall 007
- maintenance shop
- sewage treatment system
- precipitators
- outfall 001.

The EPA/SAIC inspection team left the facility at approximately 4:00 PM.

3.4 Thursday, June 25th – Sampling at Kammer Plant

On Thursday morning, June 25th, the EPA/SAIC inspection team arrived on-site at 8:30 AM. The entire day was dedicated to collecting water and sediment samples at the Kammer facility. The sampling got off to a later start than anticipated because the AEP representatives were using the time to gather their necessary sample containers. However, after realizing that there were not enough bottles in the main lab, Mr. Palmer asked if EPA/SAIC could provide AEP with sample containers. The inspection team granted their request. The first sample was collected at 11:17 AM and the last sample for the day was collected at 4:30 PM. After the last sample was collected, all of the coolers were prepared for proper shipment. Further sampling details (locations, methods, times, etc.) can be found reporting Section 4.0.

3.5 Friday, June 26th – Sampling at Mitchell Plant

On Friday morning, June 26th, the EPA/SAIC inspection team arrived on-site at 8:00 AM. The day was dedicated to collecting water and soil samples from the Mitchell facility. The first sample was collected at 8:50 AM and the last sample was collected at 11:50 AM. After the last sample was collected, all of the coolers were prepared for proper shipment. Additional sampling details (locations, methods, times, etc.) can be found in Section 4.0.

4.0 Sampling Activities and Field Observations

4.1 Background on Bevill Wastes

EPA is investigating the waste disposal practices at coal-fired power plants as they relate to the Bevill exclusion. The Bevill exclusion exempts from hazardous waste regulation independently managed large-volume wastes generated at coal-fired electric utilities that use coal as the primary fuel feed in their operations. These large-volume wastes are:

- fly ash waste
- bottom ash waste
- slag waste and
- flue gas emission control waste.

Other wastes from the combustion of coal or other fossil fuels are also Bevill exempt from regulation under RCRA subtitle C. These include:

- coal combustion wastes generated at non-utilities
- coal combustion waste from fluidized bed combustion technology
- petroleum coke combustion wastes
- waste from the combustion of mixtures of coal and other fuels

- wastes from the combustion of oil and
- wastes from the combustion of natural gas.

Finally, large-volume coal combustion wastes generated at electric utilities and independent power producing facilities that are co-managed with other coal combustion wastes are exempted. Common low-volume wastes fall into two categories: uniquely associated and non-uniquely associated wastes. Common uniquely associated wastes are:

- coal pile runoff
- coal mill rejects such as pyrite and off-specification coal
- wastes from the cleaning of the exterior surfaces of heat exchangers
- floor and yard drains including wash water and stormwater
- wastewater treatment sludges and
- boiler fireside (inside of boiler tubes) chemical cleaning wastes.

If these low-volume, uniquely associated wastes are not co-managed with large-volume fossil fuel combustion wastes, they may be subject to regulation as hazardous wastes if they are listed or exhibit a hazardous characteristic.

Low-volume wastes that typically are non-uniquely associated wastes and are not exempt are:

- boiler blowdown
- cooling tower blowdown and sludge
- intake and makeup water treatment and regeneration wastes
- boiler waterside cleaning wastes
- lab wastes
- construction and demolition debris
- general maintenance wastes and
- spills and leaks of process materials that generate non-uniquely associated wastes.

In particular, EPA is interested in the disposal of non-uniquely associated wastes with Bevill excluded wastes, and SAIC sampling focused on sources potentially meeting these parameters.

4.2 Sample Collection Overview

Samples were collected from the Kammer-Mitchell facility on Thursday, June 25th (Section 4.3) and Friday, June 26th (Section 4.4). Table 4-1 describes type and location of sludge/sediment samples as well as the number and type of sample containers filled for each sample. Table 4-2 describes type and location of wastewater samples, and the number and type of sample containers filled for each sample.

Table 4-1. Sludge/Sediment Sampling Locations and Number and Type of Sample Containers Used

| Sample ID | Sample Location | Volatiles | Ignitability/ Reactivity/ pH | SVOC/ PCB | TCLP | Metals |
|-----------|-------------------------------|-------------------------------|------------------------------------|-------------------------------|--------------------------------|-------------------------------|
| | | 4-oz Wide Mouth Glass 1 | 4-oz Wide Mouth Glass 1 | 4-oz Wide Mouth Glass 1 | 16-oz Wide Mouth Glass 2 | 4-oz Wide Mouth Glass 1 |
| KS-1 | Wastewater Treatment Basin | X | X | X | X | X |
| MS-1 | Bottom Ash Pond | X | X | X | X | X |
| MS-2 | Bottom Ash Dewatering Pond | X | X | X | X | X |

Table 4-2. Wastewater Sampling Locations and Number and Type of Sample Containers Used

| Sample ID | Sample Location | Volatiles | Ignitability | SVOC/ PCB | TCLP | Reactivity | Metals | TCLP |
|-----------|--------------------------------------|----------------|-----------------|----------------|----------------|---------------------|--------------------------------|----------------|
| | | 40-ml VOA 2 | 4-oz Glass 1 | 1 L Amber 2 | 1 L Amber 3 | 300-ml Plastic 1 | 300-ml Plastic w/ HNO3 1 | 40-ml VOA 2 |
| KW-3 | Kammer Lab Sump | X | X | X | X | X | X | X |
| KW-1 | Boiler Sump | X | X | X | X | X | X | X |
| KW-2 | Wastewater Treatment Basin | X | X | X | X | X | X | X |
| MW-1 | Unit 1 & 2 Wastewater Sump Discharge | X | X | X | X | X | X | X |
| MW-2 | CPS WWTP Sample Point | X | X | X | X | X | X | X |
| MW-4 | CPS WWTP Sample Point – Duplicate | X | X | X | X | X | X | X |
| MW-3 | Precipitator Overflow Sump | X | X | X | X | X | X | X |

4.3 Thursday, June 25th Sampling Activities

This section provides specific information on each sample collected from the Kammer facility on Thursday, June 25, 2009. Figure 4-1 is a copy of a site water flow diagram with sample locations identified.

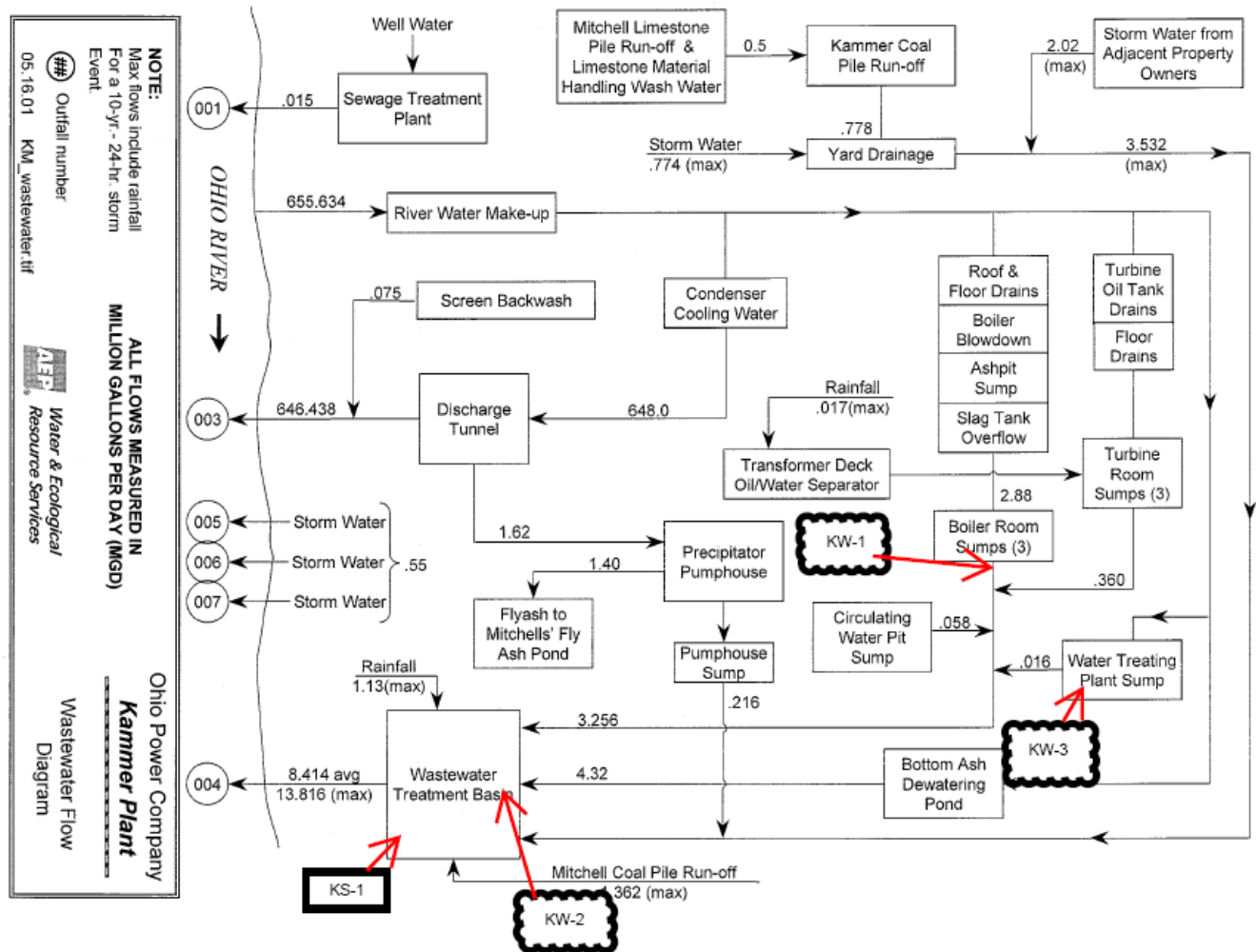


Figure 4-1. Kammer Plant Sampling Locations

4.3.1 Sample KW-3

Table 4-3 presents information for sludge/sediment sample KW-3. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved Quality Assurance Project Plan¹ (QAPP).

Table 4-3. Sample KW-3

| | |
|--------------------------|---|
| Location | Kammer Power Plant Lab Sump |
| Date | June 25, 2009 |
| Start Time | 11:17 AM |
| Finish Time | 11:29 AM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wastewater |
| Sample Collection Method | A 1-liter Teflon dipper with a long Teflon handle was lowered into the sump, filled with wastewater, and extracted from the sump. The wastewater was then poured into the sample containers through a stainless steel funnel. |

Figure 4-2 is a photograph of the KW-3 sampling location.



Figure 4-2. Sample KW-3: Kammer Power Plant Lab Sump

4.3.2 Sample KW-1

Table 4-4 presents information for wastewater sample KW-1. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-4. Sample KW-1

| | |
|--------------------------|--|
| Location | Kammer Power Plant Boiler Sump No. 1 |
| Date | June 25, 2009 |
| Start Time | 12:10 PM |
| Finish Time | 12:24 PM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wastewater |
| Sample Collection Method | A 1-liter Teflon dipper with a long Teflon handle was lowered into the sump, filled with wastewater, and extracted from the sump. The wastewater was then poured into the sample containers through a stainless steel funnel. In the process of filling the last few containers, the team observed the wastewater changing from a fairly clear color to a brown color. |

Figure 4-3 is a photograph of the KW-1 sampling location.



Figure 4-3. Sample KW-1: Kammer Power Plant Boiler Sump No. 1

4.3.3 Sample KW-2

Table 4-5 presents information for wastewater sample KW-2. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-5. Sample KW-2

| | |
|--------------------------|---|
| Location | Kammer Power Plant Wastewater Treatment Basin |
| Date | June 25, 2009 |
| Start Time | 3:30 PM |
| Finish Time | 4:00 PM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wastewater |
| Sample Collection Method | A 1-liter Teflon dipper with a long Teflon handle was lowered into the sump, filled with wastewater, and extracted from the sump. The wastewater was then poured into the sample containers through a stainless steel funnel. |

Figure 4-4 is a photograph of the KW-2 sampling location.



Figure 4-4. Sample KW-2: Kammer Power Plant Wastewater Treatment Basin

4.3.3 Sample KS-1

Table 4-6 presents information for sludge/sediment sample KS-1. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-6. Sample KS-1

| | |
|--------------------------|--|
| Location | Kammer Power Plant Wastewater Treatment Basin |
| Date | June 25, 2009 |
| Start Time | 4:30 PM |
| Finish Time | 5:00 PM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Sediment |
| Sample Collection Method | A 1-liter Teflon dipper with a long Teflon handle was used to scrape the bottom of the basin to obtain a sample. After a sufficient amount of sample was collected to approximately fill a 13-quart stainless steel bowl, the sample was mixed with a stainless steel spoon for one minute (until the consistency appeared homogenous). The sample was then scooped and packed into the sample bottles using a stainless steel spoon and trowel. |

Figure 4-5 is a photograph of the KW-2 sampling location.



Figure 4-5. Sample KS-1: Kammer Power Plant Wastewater Treatment Basin

4.4 Friday, June 26th Sampling Activities

The following samples listed below were collected from the Mitchell facility on Friday, June 26, 2009. Figure 4-6 is a copy of a site water flow diagram with sample locations identified.

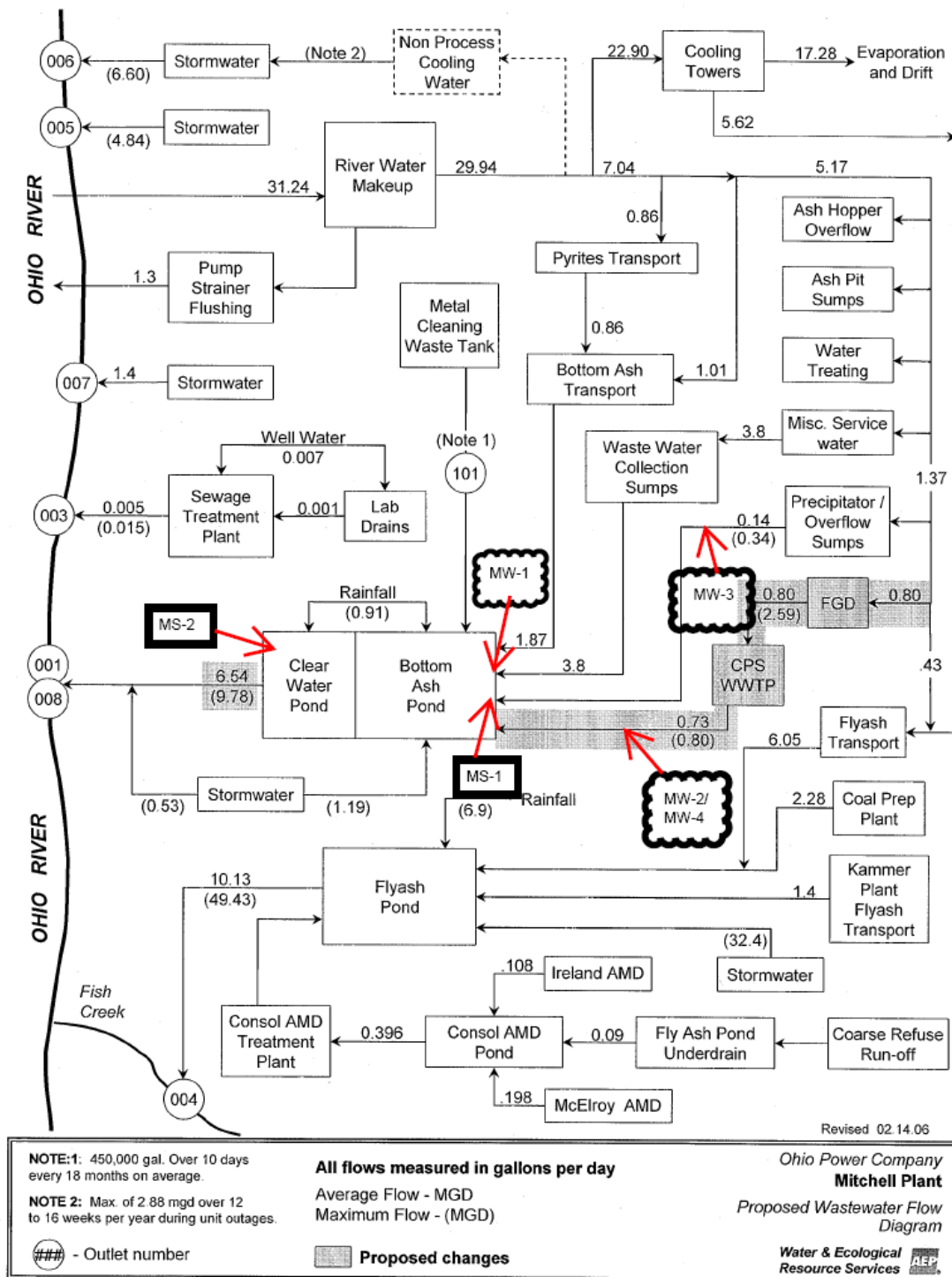


Figure 4-6. Mitchell Plant Sample Locations

4.4.1 Sample MW-1

Table 4-7 presents information for wastewater sample MW-1. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-7. Sample MW-1

| | |
|--------------------------|---|
| Location | Mitchell Power Plant Bottom Ash Pond |
| Date | June 26, 2009 |
| Start Time | 8:50 AM |
| Finish Time | 9:05 AM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wastewater |
| Sample Collection Method | A 1-liter Teflon dipper with a long Teflon handle was placed into the wastewater stream flowing from the discharge pipe from Units #1 and #2. The wastewater was then poured into the sample containers through a stainless steel funnel. |

Figure 4-7 is a photograph of the MW-1 sampling location.



Figure 4-7. Sample MW-1: Mitchell Power Plant Bottom Ash Pond Wastewater

4.4.2 Sample MS-1

Table 4-8 presents information for sludge/sediment sample MS-1. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-8. Sample MS-1

| | |
|--------------------------|--|
| Location | Mitchell Power Plant Bottom Ash Pond |
| Date | June 26, 2009 |
| Start Time | 9:10 AM |
| Finish Time | 9:40 AM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wet sediment |
| Sample Collection Method | A 1-liter Teflon dipper with a long Teflon handle was used to scrape and collect sediment from the bottom of the pond. After a sufficient amount of sample was collected to approximately fill a 13-quart stainless steel bowl, the sample was mixed with a stainless steel spoon for one minute (until the consistency appeared homogenous). The sample was then scooped and packed into the sample bottles using a stainless steel spoon and trowel. |

Figure 4-8 is a photograph of the MS-1 sampling location.



Figure 4-8. Sample MS-1: Mitchell Power Plant Bottom Ash Pond

4.4.3 Sample MS-2

Table 4-9 presents information for sludge/sediment sample MS-2. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-9. Sample MS-2

| | |
|--------------------------|--|
| Location | Mitchell Power Plant Bottom Ash Dewatering Pond |
| Date | June 26, 2009 |
| Start Time | 10:15 AM |
| Finish Time | 10:50 AM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Sediment |
| Sample Collection Method | A 1-liter Teflon dipper with a long Teflon handle was used to scrape and collect sediment from the bottom of the pond. After a sufficient amount of sample was collected to approximately fill a 13-quart stainless steel bowl, the sample was mixed with a stainless steel spoon for one minute (until the consistency appeared homogenous). The sample was then scooped and packed into the sample bottles using a stainless steel spoon and trowel. |

Figure 4-9 is a photograph of the MS-2 sampling location.



Figure 4-9. Sample MS-2: Mitchell Power Plant Bottom Ash Dewatering Pond

4.4.4 Sample MW-2

Table 4-10 presents information for wastewater sample MW-2. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-10. Sample MW-2

| | |
|--------------------------|--|
| Location | Mitchell Power Plant CPS WWTP Sample Point |
| Date | June 26, 2009 |
| Start Time | 11:00 AM |
| Finish Time | 11:05 AM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wastewater |
| Sample Collection Method | The wastewater was collected from a 1-inch diameter line directly into the sample bottles. The sample line was a steel pipe approximately three feet in length. The line was flushed for two minutes to ensure that any stagnant wastewater in the sample line had been removed. The samples were representative of the wastewater stream. |

Figure 4-10 is a photograph of the MW-2 sampling location.



Figure 4-10. Sample MW-2: Mitchell Power Plant CPS WWTP Sample Point

4.4.5 Sample MW-4

Table 4-11 presents information for wastewater sample MW-4. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-11. Sample MW-4

| | |
|--------------------------|---|
| Location | Mitchell Power Plant CPS WWTP Sample Point |
| Date | June 26, 2009 |
| Start Time | 11:10 AM |
| Finish Time | 11:15 AM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wastewater |
| Sample Collection Method | A duplicate water sample was collected at the same sample CPS point as MW-2. The sample was labeled MW-4 to ensure that the field duplicate was a blind sample (specifically so the lab would not know it was a duplicate sample). After the collection of MW-2, the inspection team collected a second set of samples for the field duplicate. The same collection process from MW-2 was used for this sample. However, the line was not flushed because sampling for MW-2 had removed any stagnant wastewater in the sample line. |

Figure 4-11 is a photograph of the MW-4 sampling location.



Figure 4-11. Sample MW-4: Mitchell CPS Sample Point (Close-up of line shown in Figure 4-10.)

4.4.6 Sample MW-3

Table 4-12 presents information for wastewater sample MW-3. SAIC personnel alternately collected samples for EPA/SAIC and Kammer-Mitchell in accordance with the approved QAPP.

Table 4-12. Sample MW-3

| | |
|--------------------------|--|
| Location | Mitchell Power Plant Precipitator Overflow Sump |
| Date | June 26, 2009 |
| Start Time | 11:40 AM |
| Finish Time | 11:55 AM |
| Coordinates | NA – satellite not available |
| Sample Type | Grab |
| Matrix | Wastewater |
| Sample Collection Method | Wastewater was collected using a stainless steel bucket with a long piece of polyester rope, which was lowered down into the overflow sump. The bucket was filled with wastewater and lifted back aboveground. The wastewater was then poured directly into the sample containers from the stainless steel bucket. |

Figure 4-12 is a photograph of the MW-3 sampling location.



Figure 4-12. Sample MW-3: Mitchell Power Plant Precipitator Overflow Sump

4.5 Sample Packaging and Shipment

The EPA/SAIC inspection team split every sample with the AEP representatives. In addition, the inspection team also provided AEP with most of the split sample containers. After initial sample collection, all of the sample containers were immediately placed into a cooler containing bagged ice until they could be packaged for shipment.

Sample packaging for shipment consisted of lining a cooler with a clean plastic trash bag and placing two 2-gallon Ziploc bags, approximately one-half full of ice on the bottom of the cooler inside the trash bag. A layer of large sample bottles were placed on top of the ice. Another layer of ice (in Ziploc bags) was added on top. The remaining sample containers were placed on top of the previous layer of ice. Finally, a third layer of ice (in Ziploc bags) was added on top and the trash bag was sealed and secured by tying a knot and/or taping the bag shut. The chain of custody was properly completed for each sample location/cooler, inserted into a 2-gallon Ziploc bag which was sealed, and placed on top of the sealed trash bag inside the cooler. Copies of the chain of custody forms are located in Appendix C. The cooler was then taped shut with strapping tape. The custody seals were signed, dated, and placed on each cooler covered with a small piece of tape. Finally, the shipping air bill was properly completed and taped onto each cooler. This procedure completed the shipment process for each sample and its respective cooler.

During the entire sampling process (collection, packaging, etc.), SAIC followed the proper procedures outlined in the approved QAPP.

5.0 Analytical Results

Analytical results are presented separately for each plant. Section 5.1 discusses analytical results for the Mitchell Plant. Section 5.2 discusses analytical results for the Kammer Plant.

The complete tables of the analytical lab results are located in Appendix D. The raw lab data reports from the laboratory can be found in Appendix E in an electronic format. Sections 5.1 and 5.2 below present analytical results when parameters were identified over their method detection limit.

5.1 Mitchell Analytical Results

Samples (four aqueous and two solid) were collected at the Mitchell facility on June 26, 2009. Samples were analyzed for volatile organic compounds (VOCs) by method SW8260, semivolatile organic compounds (SVOCs) by method SW8270, poly-chlorinated biphenyls (PCBs) by SW 8082 and metals by methods SW6010 and SW7470 for aqueous samples and SW7471 for solids. Toxicity Characteristic Leaching Procedure (TCLP) extracts were prepared as per SW846 1311 followed by analysis by the above methods, as appropriate, as well as for pesticides by SW8081 and herbicides by SW8151. TCLP VOCs were evaluated based on the results of the total analyses adjusted for the dilution of the extraction fluid and results were all non-detect. Therefore, a separate ZHE extraction was not required (as per SW846 1311, 1.2).

5.1.1 TCLP Analytical Results

Table 5-1 presents a summary of results for selected TCLP analyses for aqueous and sediment (solid) samples collected at the Mitchell Plant for only those parameters detected over their method detection limits. None of the sample results exceeds the corresponding TCLP limit. The only metal found above detection limit was barium which has a TCLP limit of 100.0 mg/l. All

other parameters not summarized on Table 5-1, but which were analyzed, had results below their detection limits.

Table 5-1. Summary of Selected TCLP Analytical Results: Mitchell Plant Aqueous and Sediment Samples

| Field Sample ID | TCLP Regulatory Criteria | MW-1 | MW-2 | MW-3 | MW-4 | MS-1 | MS-2 |
|--------------------|--------------------------------|---------|---------|---------|---------|---------|---------|
| Matrix | | Water | Water | Water | Water | Solid | Solid |
| Sample Date | | 6/26/09 | 6/26/09 | 6/26/09 | 6/26/09 | 6/26/09 | 6/26/09 |
| Units | mg/l | mg/l | mg/l | mg/l | mg/l | mg/l | mg/l |
| TCLP Metals | | | | | | | |
| Barium | 100 | ND | ND | ND | ND | 0.62 | 0.26 |
| *ND - Not Detected | | | | | | | |

5.1.2 Total Analytical Results

Table 5-2 presents a summary of results for selected analytical results for aqueous and sediment (solid) samples collected at the Mitchell Plant for only those parameters detected over their method detection limit. All other parameters not summarized on Table 5-2, but which were analyzed, had results below their detection limits.

5.1.3 Reliability of Analytical Data

Results were reviewed to determine the reliability of the data and evaluate any limitations on their use in support of project objectives. The data quality indicators were assessed including precision and accuracy. Sample quality control included holding times, surrogate recovery and internal standard results. Batch QC analyses included tuning and calibration, method blanks, laboratory control samples, and matrix spikes. The results for each parameter are discussed below.

5.1.3.1 Sample Receipt

Samples were received at the lab without any noted exceptions.

5.1.3.2 VOC Analytical Review

All samples for total VOCs were analyzed within method specified holding times. Soils were extracted into methanol and analyzed as mid-level protocols with elevated detection limits (approximately 500 ug/kg). Prior to the analysis of any samples, the tune performance compound BFB was analyzed, and an initial calibration was performed. Outlier compounds were evaluated for linearity via linear or non-linear regression. Every 12 hours that samples were analyzed, the instrument tune and calibration was verified.

Continuing calibration verifications (CCV) standards were analyzed as required and generally met criteria with the exception of calibration results for acrolein (solids and aqueous) and carbon tetrachloride (aqueous calibration) which had elevated % D values above 40%; all sample results were non-detect and were qualified UJ to reflect outlier calibration.

Table 5-2. Summary of Selected Analytical Results: Mitchell Plant Aqueous and Sediment Samples

| | Aqueous Samples | | | | Soil Samples | |
|----------------------------|-----------------|---------|---------|---------|--------------|---------|
| Field Sample ID | MW-1 | MW-2 | MW-3 | MW-4 | MS-1 | MS-2 |
| Matrix | Water | Water | Water | Water | Solid | Solid |
| Sample Date | 6/26/09 | 6/26/09 | 6/26/09 | 6/26/09 | 6/26/09 | 6/26/09 |
| Units | ug/l | ug/l | ug/l | ug/l | ug/kg | ug/kg |
| VOCs - Total | | | | | | |
| Methylene Chloride | ND | ND | 82 | ND | ND | ND |
| SVOCs - Total | | | | | | |
| Bis(2-Ethylhexyl)phthalate | ND | ND | ND | ND | 720 | ND |
| Metals - Total | mg/l | mg/l | mg/l | mg/l | mg/kg | mg/kg |
| Aluminum | 0.52 | ND | 2.6 | ND | 13000 | 1600 |
| Arsenic | ND | 0.021 | 0.0055 | 0.018 | 9.1 | ND |
| Barium | 0.051 | 0.052 | 0.065 | 0.052 | 130 | 16 |
| Beryllium | ND | ND | ND | 0.0024 | ND | ND |
| Cadmium | 0.00078 | 0.018 | 0.0019 | 0.017 | 1.5 | ND |
| Calcium | 31 | 1300 | 42 | 1300 | 15000 | 480 |
| Chromium | 0.012 | ND | 0.0090 | 0.0086 | 38 | 2.4 |
| Cobalt | ND | ND | ND | 0.0061 | 6.4 | ND |
| Copper | 0.020 | ND | 0.19 | ND | 120 | 3.6 |
| Iron | 0.95 | 0.43 | 2.1 | 0.45 | 30000 | 4900 |
| Lead | ND | ND | ND | ND | 34 | ND |
| Magnesium | 7.8 | 1200 | 3.9 | 1200 | 4100 | 93 |
| Manganese | 0.074 | 2.9 | 0.20 | 2.8 | 1500 | 9.1 |
| Nickel | 0.010 | 0.016 | ND | 0.026 | 35 | ND |
| Potassium | 2.4 | 20 | 2.0 | 19 | 1700 | 170 |
| Selenium | ND | 0.15 | ND | 0.15 | 39 | ND |
| Sodium | 59 | 190 | 16 | 190 | ND | ND |
| Thallium | ND | 0.099 | ND | 0.094 | ND | ND |
| Vanadium | 0.0028 | ND | 0.018 | ND | 41 | 3.5 |
| Zinc | ND | ND | 0.93 | ND | 260 | ND |
| Mercury | ND | ND | ND | ND | 2.9 | ND |
| | | | | | | |
| pH | 7.8 | 8.5 | 7.0 | 8.5 | 8.0 | 8.0 |
| % Solids | na | na | na | na | 47.82 | 83.80 |
| Ignitability | >200 °F | >200 °F | >200 °F | >200 °F | ND | ND |
| Reactive Cyanide | ND | ND | ND | ND | ND | ND |
| Reactive Sulfide | 19 | 46 | 42 | 28 | ND | 48 |
| *ND - Not Detected | | | | | | |

Surrogate and internal standards were added to the samples prior to analysis. Area counts and retention times for the internal standards met criteria and all surrogate recoveries fell within laboratory control limits.

Method blanks were generally free of target compound contamination; one method blank contained low level methylene chloride contamination. One of the associated samples had methylene chloride detected, and the results were qualified as estimated. Accuracy was assessed through the analysis of laboratory control samples (LCSs), which were analyzed with each analytical batch and matrix spikes or matrix spike duplicates (MS/MSD). A few compounds had recoveries that exceeded control limits; these compounds were not detected in the samples.

A field duplicate pair was collected and analyzed (MW-2, MW-4); VOC results were all non-detect for both samples.

5.1.3.3 SVOC Analytical Review

All extraction and analysis holding times were met for total aqueous and solid sample SVOCs. The specified holding time for TCLP extracts is 7 days from TCLP leachate extraction to the preparative extraction of the leachate for SVOCs. One TCLP leachate (MW-4) exceeded the holding time by 9 days. These data are qualified as estimated, and caution should be used when evaluating objectives based on these non-detect results. Note that this sample (MW-4) was the field duplicate, and therefore, the impact on the project objectives is minimal.

Prior to the analysis of any samples, the tune performance compound DFTPP was analyzed and an initial calibration was performed. Outlier calibration compounds were evaluated for linearity via linear or non-linear regression. Every 12 hours that samples were analyzed, the instrument tune and calibration was verified. During the analytical sequence that included total SVOCs for MS-1 and MS-2, the CCV was actually analyzed an hour prior to the tune performance check compound. All standards were analyzed as required within a 12-hour window although the sequence was altered. The data are usable but considered estimated based on the calibration irregularity. All method blanks were free of target compound contamination.

Surrogates were added to samples prior to extraction, and internal standards were added to the extracts prior to analysis. Internal standard area counts and retention time criteria were met for all samples. Surrogate recoveries fell within laboratory control limits.

Laboratory control samples (LCS) and matrix spike duplicates were analyzed with each batch of samples to assess accuracy and precision. When volume was limited, an MS and LCS/D were analyzed. A few compound recoveries slightly exceeded control limits; compounds were not detected and recoveries were within 10% of the control limits. Soil spike recovery of pentachlorophenol (PCP) was below control limits in both the soil MS and MSD; soil PCP results are qualified as estimated. The aqueous laboratory control sample duplicate (LCSD) had no recovery of pentachlorophenol. Although the LCS and matrix spike had compliant recovery values, the aqueous PCP results are qualified based on the LCSD results.

A field duplicate pair was collected and analyzed (MW-2, MW-4); SVOC results (total and TCLP) were all non-detect for both samples.

5.1.3.4 Pesticide Analytical Review

Most samples for TCLP pesticides were extracted within method specified holding times; one TCLP leachate (MW-4) exceeded the holding time by 7 days. The data for MW-4 TCLP pesticides are qualified as estimated, and caution should be used when evaluating objectives based on these non-detect results. Note that this sample (MW-4) was the field duplicate, and therefore, the impact on the project objectives is minimal.

Prior to sample analysis, calibrations were performed per the method requirements. Surrogates were added to samples prior to extraction, and recovery values met laboratory control limits.

Method blanks were free of contamination above the reporting limits. Laboratory control samples and matrix spike duplicates were analyzed with each batch of samples. A few compound

recoveries exceeded control limits in LCS or MS/MSD. However, the compounds were not detected in the samples, and recovery values were generally within 10% of the control limits. Therefore, there was no impact on overall data quality.

A field duplicate pair was collected and analyzed (MW-2, MW-4); pesticide results were all non-detect for both samples.

5.1.3.5 Herbicide Analytical Review

TCLP herbicides were extracted outside of the method specified holding time for the preparative extraction of TCLP leachates for the following samples: MW-1, MW-2, MW-3 and MW-4. The samples were extracted one day past the method specified holding time. Therefore, these TCLP herbicide data are considered estimated.

Surrogates were added to samples prior to extraction and were generally within control limits. Herbicides were not detected in any field samples.

Calibrations were performed in accordance with method requirements. Method blanks were free of contamination. Laboratory control samples and matrix spike duplicates were analyzed with each batch of samples.

A field duplicate pair was collected and analyzed (MW-2, MW-4); TCLP herbicide results were all non-detect for both samples.

5.1.3.6 PCB Analytical Review

Samples for Poly-chlorinated Biphenyl (PCB) analysis were extracted and analyzed within the method specified holding time. Prior to sample analysis, calibrations were performed per the method requirements.

Surrogates were added to samples prior to extraction. Recovery for one sample (MS-2) fell below the specified control limits, and PCB data for this sample were qualified as estimated. Method blanks were free of contamination above the reporting limits. Laboratory control samples and matrix spike duplicates were analyzed with each batch of samples. The soil LCS analyses indicated low (31-61%) recovery of Aroclor 1016/1260 (the standard spiking solution). Aroclor 1016 also had low recovery in the matrix spike analyzed as the associated batch QC, and Aroclor 1260 had recovery values within control limits. Based on the LCS/D results, the Aroclor 1016 results for the soil samples are qualified UJ.

A field duplicate pair was collected and analyzed (MW-2, MW-4); PCB results were all non-detect for both samples.

5.1.3.7 Metals Analytical Review

Samples were analyzed for Total Target Analyte List (TAL) metals and TCLP metals. All samples were analyzed within method specified holding times.

Calibration was performed as per method requirements and included initial calibration verification standards, continuing calibration verification standards, initial and continuing calibration blanks. An initial calibration verification standard (ICV) result for antimony had a recovery of 120%; therefore, soil sample data (or detection limits) were qualified as estimated.

Calibration blanks generally met validation criteria with several exceptions. Arsenic, calcium, potassium, selenium, antimony, and iron were reported in several calibration blanks. After accounting for digestion factors, the only soil data requiring qualification was the potassium result for MS-2, which was considered an estimated value. Aqueous results for arsenic and potassium were also qualified as estimated based on the blank contamination. Other metals were either ND in the samples or found at concentrations greater than 10 times the blank level.

A method blank associated with the TCLP analyses contained low level concentrations above the reporting limit of barium (0.139 mg/l), cadmium (0.011 mg/l) and chromium (-0.0251 mg/l). Cadmium and chromium were not detected in any samples. Barium was reported at less than 10 times the blank concentrations for MS-1 and MS-2; therefore, the barium results for these samples were qualified as estimated due to the blank contamination.

Matrix spike duplicates (MS/MSDs), laboratory control samples, and duplicate samples were analyzed with each batch of samples. Some outlier spike recoveries were due to the high native sample concentration relative to the spiking level which precluded an assessment of accuracy for these metals. TCLP silver recovery was below control limits, and results are qualified. Duplicate samples met criteria for precision with Relative Percent Difference (RPD) values within control limits for samples with results above the RDL.

A field duplicate pair was collected and analyzed (MW-2, MW-4); results all agreed with an RPD of < 20% for any element detected at greater than 5 times the reporting limit.

5.1.3.8 Wet Chemistry Review

Ignitability: Aqueous samples values were >200°F. The soil sample was reported as ND. A duplicate from another project analyzed in the same batch as the Mitchell samples had a primary sample result of >200 °F but the duplicate was ND. Based on these questionable precision data the sample results are considered estimated values.

Reactive Cyanide: All samples were run outside of the holding time; therefore, all results are qualified as estimated. The LCS and MS/MSD were within laboratory established control limits, but it should be noted that these limits indicate the analysis is biased low. (LCS control limits are 5-15% recovery, and MS control limits are 3-20% recovery.)

Reactive Sulfide: All samples were run outside of the holding time; therefore, all results are qualified as estimated. The LCS was run in triplicate, and all three recovery values were below control limits, indicating potential low bias in the analysis. One of the three matrix spikes analyzed had no recovery; the other two had recovery slightly above the lower control limit of 20%.

pH: pH for aqueous samples was determined outside of the holding time; therefore, all results are qualified as estimated.

5.1.4 Summary of Data Usability and Limitations

Based on the review of analytical data, as detailed above, some sample results have been identified as having QC non-conformance such that the data cannot be used without qualification. The results for these samples, qualified as estimated with a Data Validation Qualifier (DVQ) of J or UJ, have been so indicated in the attached Mitchell Data Review Tables.

All other sample data can be used without additional limitation or qualification for the evaluation of project objectives.

5.2 Kammer Analytical Results

Samples (three aqueous and one solid) were collected at the Kammer facility on June 26, 2009. Samples were analyzed for volatile organic compounds (VOCs) by method SW8260, semivolatile organic compounds (SVOCs) by method SW8270, poly-chlorinated biphenyls (PCBs) by SW 8082 and metals by methods SW6010 and SW7470 for aqueous samples and SW7471 for solids. Toxicity Characteristic Leaching Procedure (TCLP) extracts were prepared as per SW846 1311 followed by analysis by the above methods, as appropriate, as well as for pesticides by SW8081 and herbicides by SW8151. TCLP VOCs were evaluated based on the results of the total analyses adjusted for the dilution of the extraction fluid, and results were all non-detect. Therefore, a separate ZHE extraction was not required (as per SW846 1311, 1.2).

5.2.1 TCLP Analytical Results

Table 5-3 presents a summary of results for selected TCLP analyses for aqueous and sediment (solid) samples collected at the Kammer Plant for only those parameters detected over their method detection limits. None of the sample results exceed the corresponding TCLP limit. The only metal found above detection limits was barium, which has a TCLP limit of 100.0 mg/l. All other parameters not summarized in Table 5-3, but which were analyzed, had results below their detection limits.

Table 5-3. Summary of Selected TCLP Analytical Results: Kammer Plant Aqueous/Sediment Samples

| Field Sample ID | TCLP Regulatory Criteria | KW-1 | KW-2 | KW-3 | KS-1 |
|--------------------|--------------------------------|---------|---------|---------|---------|
| Matrix | | Water | Water | Water | Solid |
| Sample Date | | 6/25/09 | 6/25/09 | 6/25/09 | 6/25/09 |
| Units | mg/l | mg/l | mg/l | mg/l | mg/l |
| TCLP Metals | | | | | |
| Barium | 100 | ND | ND | 0.27 | 0.60 |
| *ND - Not Detected | | | | | |

5.2.2 Total Analytical Results

Table 5-4 presents a summary of results for selected analytical results for aqueous and sediment (solid) samples collected at the Kammer Plant for only those parameters detected over their method detection limits. All other parameters not summarized in Table 5-4, but which were analyzed, had results below their detection limits.

Table 5-4. Summary of Selected Analytical Results: Kammer Plant Aqueous/Sediment Samples

| | Aqueous Samples | | | Soil Sample |
|--------------------|-----------------|---------|---------|-------------|
| Field Sample ID | KW-1 | KW-2 | KW-3 | KS-1 |
| Matrix | Water | Water | Water | Solid |
| Sample Date | 6/25/09 | 6/25/09 | 6/25/09 | 6/25/09 |
| Units | mg/l | mg/l | mg/l | mg/kg |
| Metals - Total | | | | |
| Aluminum | 0.58 | 0.27 | 0.23 | 5400 |
| Arsenic | ND | 0.0051 | 0.0063 | 80 |
| Barium | 0.074 | 0.051 | 0.24 | 75 |
| Cadmium | 0.0012 | 0.00074 | 0.0053 | 0.59 |
| Calcium | 52 | 38 | 170 | 5700 |
| Chromium | ND | ND | ND | 11 |
| Copper | 0.0059 | 0.0080 | 0.017 | 12 |
| Iron | 1.6 | 0.51 | 3.1 | 17000 |
| Magnesium | 12 | 8.8 | 39 | 1000 |
| Manganese | 0.10 | 0.077 | 0.27 | 190 |
| Potassium | 3.4 | 2.7 | 11 | 730 |
| Sodium | 87 | 39 | 500 | ND |
| Thallium | ND | ND | 0.027 | ND |
| Vanadium | ND | ND | ND | 19 |
| Zinc | ND | ND | ND | 78 |
| Mercury | ND | ND | ND | 0.12 |
| | | | | |
| pH | 8.8 | 7.8 | 7.6 | 7.2 |
| % Solids | na | na | na | 51.55 |
| Ignitability | >200 °F | >200 °F | >200 °F | ND |
| Reactive Cyanide | ND | ND | ND | ND |
| Reactive Sulfide | 50 | 40 | 26 | ND |
| *ND - Not Detected | | | | |

5.2.3 Reliability of Analytical Data

Results were reviewed to determine the reliability of the data and evaluate any limitations on their use in support of project objectives. The data quality indicators were assessed including precision and accuracy. Sample quality control included holding times, surrogate recovery and internal standard results. Batch QC analyses included tuning and calibration, method blanks, laboratory control samples, and matrix spikes. The results for each parameter are discussed below.

5.2.3.1 Sample Receipt

Samples were received at the lab without any noted exceptions.

5.2.3.2 VOC Analytical Review

All samples for total VOCs were analyzed within method specified holding times. Soils were extracted into methanol and analyzed as mid-level protocols with elevated detection limits (approximately 500 ug/kg). Prior to the analysis of any samples, the tune performance compound BFB was analyzed, and an initial calibration was performed. Outlier compounds were evaluated

for linearity via linear or non-linear regression. Every 12 hours that samples were analyzed, the instrument tune and calibration was verified. Continuing calibration verifications (CCV) standards were analyzed as required and generally met criteria with the exception of acrolein and carbon tetrachloride which had elevated % D values above 40%. All sample results were non-detect and were qualified UJ to reflect outlier calibration.

Surrogate and internal standards were added to the samples prior to analysis. Area counts and retention times for the internal standards met criteria, and all surrogate recoveries fell within laboratory control limits.

Method blanks were generally free of target compound contamination; one method blank contained low level methylene chloride contamination. However, the associated samples were ND. Accuracy was assessed through the analysis of laboratory control samples (LCSs) which were analyzed with each analytical batch, and matrix spikes or matrix spike duplicates (MS/MSD). A few compounds had recoveries that exceeded control limits; however, these compounds were not detected in the samples.

5.2.3.3 SVOC Analytical Review

All extraction and analysis holding times were met for total aqueous and solid sample SVOCs. The specified holding time for TCLP extracts is 7 days from TCLP leachate extraction to the preparative extraction of the leachate for SVOCs. One TCLP leachate (KS-1) exceeded the holding time by one day; the data are qualified as estimated.

Prior to the analysis of any samples, the tune performance compound DFTPP was analyzed and an initial calibration was performed. Outlier calibration compounds were evaluated for linearity via linear or non-linear regression. Every 12 hours that samples were analyzed, the instrument tune and calibration was verified. All method blanks were free of target compound contamination.

Surrogates were added to samples prior to extraction, and internal standards were added to the extracts prior to analysis. Internal standard area counts and retention time criteria were met for all samples. Surrogate recoveries fell within laboratory control limits.

Laboratory control samples (LCS) and matrix spike duplicates were analyzed with each batch of samples to assess accuracy and precision. When volume was limited an MS and LCS/D were analyzed. A few compound recoveries slightly exceeded control limits. Soil spike recovery of pentachlorophenol (PCP) was below control limits in both the soil MS and MSD; soil PCP results are qualified as estimated. The aqueous laboratory control sample duplicate (LCSD) had no recovery of pentachlorophenol. Although the LCS and matrix spike had compliant recovery values, the aqueous PCP results are qualified based on the LCSD results.

5.2.3.4 Pesticide Analytical Review

Samples for TCLP pesticides were extracted within method specified holding times. Prior to sample analysis, calibrations were performed per the method requirements. Surrogates were added to samples prior to extraction, and recovery values met laboratory control limits.

Method blanks were free of contamination above the reporting limits. Laboratory control samples (LCS) and matrix spike duplicates were analyzed with each batch of samples. A few compound recoveries exceeded control limits in LCS or MS/MSD; however, the compounds were

not detected in the samples. Recovery values were generally within 10% of the control limits; therefore, there was no impact on overall data quality.

5.2.3.5 Herbicide Analytical Review

Samples for TCLP herbicides were extracted outside of the method specified holding time for the preparative extraction of TCLP leachates. The soil sample KS-1 was extracted 2 days outside of the holding time, and the remaining samples were extracted 1 day past the holding time. Therefore, all TCLP herbicide data are considered estimated.

Surrogates were added to samples prior to extraction and were generally within control limits. Herbicides were not detected in any field samples.

Calibrations were performed in accordance with method requirements. Method blanks were free of contamination. Laboratory control samples (LCS) and matrix spike duplicates were analyzed with each batch of samples.

5.2.3.6 PCB Analytical Review

Samples for PCB analysis were extracted and analyzed within the method specified holding time. Prior to sample analysis, calibrations were performed per the method requirements.

Surrogates were added to samples prior to extraction, and all recoveries met specified control limits. Method blanks were free of contamination above the reporting limits. Laboratory control samples (LCS) and matrix spike duplicates were analyzed with each batch of samples. The soil LCS analyses indicated low (31-61%) recovery of Aroclor 1016/1260 (the standard spiking solution). Aroclor 1016 also had low recovery in the matrix spike analyzed as the associated batch QC, and Aroclor 1260 had recovery values within control limits. Based on the LCS/D results, the Aroclor 1016 result for the soil sample is qualified UJ.

5.2.3.7 Metals Analytical Review

Samples were analyzed for Total TAL metals and TCLP metals. All samples were analyzed within method specified holding times.

Calibration was performed as per method requirements and included initial calibration verification standards, continuing calibration verification standards, and initial and continuing calibration blanks. An ICV result for antimony had a recovery of 120%; therefore, soil sample data (or detection limits) were qualified as estimated. A continuing calibration verification standard (CCV) had outlier potassium and selenium results and all sample data are qualified as estimated. Calibration blanks generally met validation criteria with several exceptions. Arsenic, calcium, potassium, selenium, antimony and iron were reported in several calibration blanks. After accounting for digestion factors, the only soil data requiring qualification was the potassium result for KS-1, which was considered an estimated value. Aqueous results for arsenic and potassium were also qualified as estimated based on the blank contamination. The other metals were either ND in the samples or found at concentration greater than 10 times the blank level.

A method blank associated with the TCLP analyses contained low level concentrations above the reporting limit of barium (0.139 mg/l), cadmium (0.011 mg/l) and chromium (-0.0251 mg/l). Cadmium and chromium were not detected in any samples, while barium was reported at less

than 10 times the blank concentrations for KW-3 and KS-1. Therefore the barium results for these samples were qualified as estimated due to the blank contamination.

Matrix spike duplicates (MS/MSDs), laboratory control samples, and duplicate samples were analyzed with each batch of samples. Some outlier spike recoveries were due to the high native sample concentration relative to the spiking level, which precluded an assessment of accuracy for these metals. Duplicate samples met criteria for precision with RPD values within control limits for samples with results above the RDL.

5.2.3.8 Wet Chemistry Review

Ignitability: Aqueous samples values were >200°F. The soil sample was reported as ND. A duplicate from another project analyzed in the same batch as the Kammer samples had a primary sample result of >200 °F, but the duplicate was ND. Based on these questionable precision data the sample results are considered estimated values.

Reactive Cyanide: All samples were run outside of the holding time; therefore, all results are qualified as estimated. The LCS and MS/MSD were within laboratory established control limits, but it should be noted that these limits indicate the analysis is biased low. (LCS control limits are 5-15% recovery, and MS control limits are 3-20% recovery.)

Reactive Sulfide: All samples were run outside of the holding time; therefore, all results are qualified as estimated. The LCS was run in triplicate and all three recovery values were below control limits, indicating potential low bias in the analysis. One of the three matrix spikes analyzed had no recovery; the other two had recovery slightly above the lower control limit of 20%.

pH: pH for the aqueous samples was determined outside of the holding time; therefore, all aqueous sample results are qualified as estimated.

5.2.4 Summary of Data Usability and Limitations

Based on the review of analytical data, as detailed above, some sample results have been identified as having QC non-conformance such that the data cannot be used without qualification. The results for these samples, qualified as estimated with a Data Validation Qualifier (DVQ) of J or UJ, have been so indicated in the attached Kammer Data Review Tables.

All other sample data can be used without additional limitation or qualification for the evaluation of project objectives.

6.0 Regulatory Review

SAIC performed records review and site inspections for RCRA, EPCRA, and CWA regulatory inspection. This section summarizes SAIC's observations.

6.1 RCRA

Mr. Matlin, EPA Region 3, was the lead for the RCRA inspection and is preparing a separate report. Mr. Zollo and Mr. Rawe of SAIC provided input in the field to Mr. Matlin based on observations during the inspection. The primary observation is related to the permit status of the facility. The Mitchell and Kammer plants are located on contiguous property (see Figure 2-2) as

determined by discussions with facility personnel and an overlay of plant boundary maps for the Kammer and Mitchell plants provided by AEP Ohio. Both plants are owned by American Electric Power (AEP) which is headquartered in Columbus, Ohio. Interviews with AEP plant personnel indicate that some employees of the Kammer and Mitchell plants work at both plants at various times. The Mitchell Plant operates as a Small Quantity Generator (SQG) under RCRA ID No. WVD980554943. The Kammer plant operates as an SQG under RCRA ID No. WVD082244302.

6.2 EPCRA

The EPCRA review consisted of two parts: Tier I/Tier II and Toxics Release Inventory (TRI). Mr. Craig Yussen, EPA Region 3, assessed TRI status without SAIC involvement. Section 6.2.1 discusses SAIC's Tier I/II inspection.

6.2.1 Tier I and II

Subpart B Community Right-To-Know reporting requirements apply to any facility that is required to prepare or have available a material safety data sheet (MSDS) for a hazardous chemical under the Occupational Safety and Health Act of 1970 and regulations promulgated under that Act. The minimum threshold for reporting for extremely hazardous substances is 500 pounds (or 227 kilograms, which is approximately 55 gallons) or the Threshold Planning Quantity (TPQ), whichever is lower. The minimum threshold for reporting for all other hazardous chemicals is 10,000 pounds (or 4,540 kilograms) (40 CFR §370.20).

40 CFR §370.25 requires the owner or operator of a facility subject to Subpart B to submit an inventory form to the State Emergency Response Commission (SERC), the Local Emergency Planning Committee (LEPC), and the fire department with jurisdiction over the facility. The inventory form containing Tier I information on hazardous chemicals present at the facility during the preceding calendar year above the threshold levels stated above must be submitted on or before March 1st of each year. The facility may submit a Tier II form in lieu of the Tier I information.

SAIC performed the following reviews for the Tier II reports for calendar years 2007 and 2008 for the Kammer and Mitchell Power Plants. As part of the review, the following activities were completed:

- 1) Confirmed that the reports had been submitted by March 1, 2008 (for calendar year 2007) and March 1, 2009 (for calendar year 2008) to the SERC, LEPC, and local emergency response agency.
- 2) Spot checked quantities of chemical stored in various locations throughout the two facilities to identify any chemicals currently stored in excess of the respective reportable quantity, recognizing that current quantities are not reportable until next March. The intent was to identify chemicals currently in excess of Reportable Quantities (RQs) and attempt to determine if RQs were exceeded in 2007 and 2008. Typically the inspector would a) compare inventory documents for previous years to the Tier II forms to confirm all chemicals above RQs were reported and b) compare current inventory documents to current physical inventories to confirm the accuracy of the inventory system. However, AEP could not produce current or past document inventories for chemicals stored. The Environmental Manager stated that chemical inventories are not maintained; chemicals are ordered on an as needed basis. Limited time prevented a comprehensive review of purchasing and usage records (it is not clear that usage is documented)

in lieu of chemical inventory records. Therefore, a comparison of current physical inventories to current document inventories and a cross-check of previous calendar year document inventories to Tier II reports could not be performed. The SAIC inspector did not observe any chemicals currently exceeding RQ values that had not been reported in previous Tier II reports.

3) To the extent time constraints and the availability of AEP personnel and documentation permitted, storage capacity of tanks was confirmed and these were compared to Tier II reported quantities. No discrepancies were noted.

The only potential issue noted on AEP Kammer-Mitchell reporting is that the two sites, which are owned by the same corporation (AEP-Ohio) and are contiguous properties (see Figure 2-2) other than a roadway easement for another company, are not reported together as one facility as required. The AEP Environmental Manager states that AEP reports TRI emissions in one report for both facilities combined. By not reporting the Kammer and Mitchell facilities together, AEP may not be reporting all chemicals for which the quantity exceeds the RQ value.

6.2.2 Toxics Release Inventory (TRI)

An independent report will be prepared by Mr. Craig Yussen of EPA.

6.3 CWA

The plant utilizes water for generation of steam to power turbines required to produce electricity and in the cooling tower designed to cool hot water before it is discharged back to the river.

6.3.1 Kammer Plant

Figure 6-1 presents a schematic of water flow at the Kammer Plant. Water is drawn from the Ohio River with the majority used for once-through cooling. Condenser cooling water is discharged via a discharge tunnel to Outfall 003. A small percentage of this cooling water is diverted from the discharge tunnel and is used in the precipitator to transport fly ash to the Mitchell Plant fly ash pond. Outfall 001 is the sewage treatment plant discharge point. All other industrial wastewaters, stormwater, and coal pile run-off is treated in a wastewater treatment basin providing for sedimentation and then discharged via Outfall 004. Other Outfalls 005 through 007 are stormwater only discharge points to the Ohio River.

The Kammer plant outfalls are regulated under NPDES Permit # WV0005291 issued May 24, 2005. A review of discharge monitoring data provided on PCS indicates that the facility is routinely in compliance with applicable permit conditions with no repeated or systemic permit noncompliance issues. Only a single noncompliance event was observed for Outfall 004 for total suspended solids in the June 2008 report. Based on visual inspection of facility outfalls, there are no unusual conditions or observances to report.

During the facility inspection, SAIC reviewed facility conditions regarding stormwater best management practices and spill prevention, control and countermeasure planning. Used oil generated from plant maintenance operations is stored in one 1,000-gallon and one 750-gallon aboveground storage tanks. Each tank is a single-walled steel pedestal tank located within its own fabricated membrane containment system (see Figure 6-2). Based on visual inspection, it is uncertain whether the containment could contain 100% of tank volume plus freeboard. These tanks are located in an outdoor shed adjacent to the main plant. There are no other unusual conditions or observations to report.

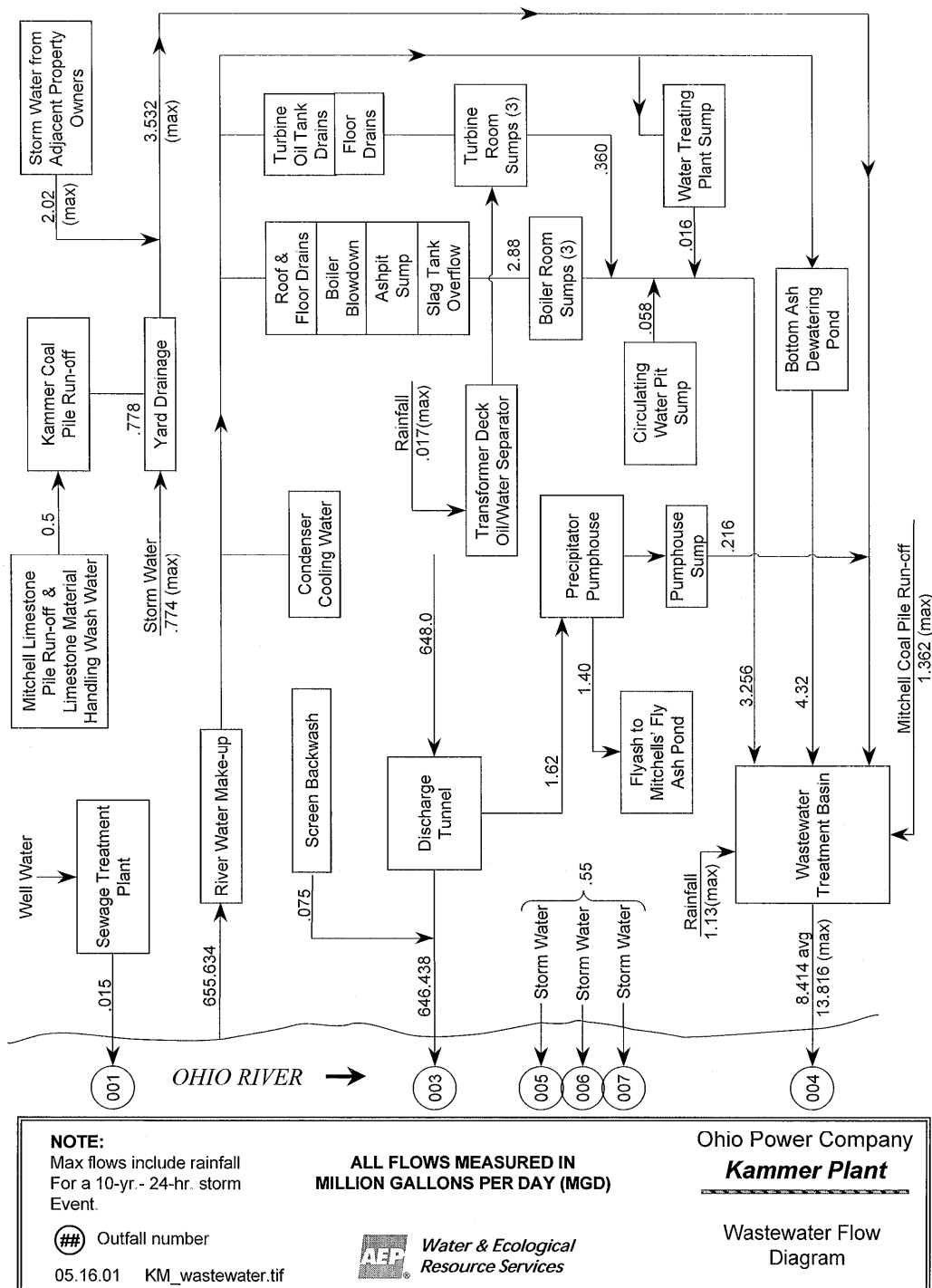


Figure 6-1. Schematic Water Flow Diagram - Kammer Plant

SAIC could not perform a review of the facility's Stormwater Pollution Prevention Plan, Facility Response Plan or Spill, Prevention, Control and Countermeasure Plan because of the time needed to conduct the sampling and site inspection, and also the Plans were not available for review.



Figure 6-2. Used Oil Aboveground Storage Tanks: Kammer Power Plant

6.3.2 Mitchell Plant

Figure 6-3 presents a schematic of water flow at the Mitchell Plant. Water is drawn from the Ohio River with the majority used for once-through cooling. Condenser cooling water is sent to a cooling tower with the majority of the water lost through evaporation and drift. A small fraction of the river water makeup is used for pyrites and bottom ash transport to the bottom ash pond. Industrial process water generated throughout the plant is also sent to the bottom ash pond. After treatment through a settling pond, the water flow from the bottom ash pond is discharged together with stormwater to Outfall 001. The Mitchell fly ash pond also receives wastewaters from the coal preparation plant, Kammer plant fly ash transport, stormwater and the discharge from the Consol AMD treatment plant. The fly ash pond discharges to Outfall 004. Outfall 003 is the sewage treatment plant discharge point. Other Outfalls 005 through 007 are stormwater discharge points to the Ohio River, while Outfall 006 may also get some non-process cooling water discharge during the year (see Figure 6-3).

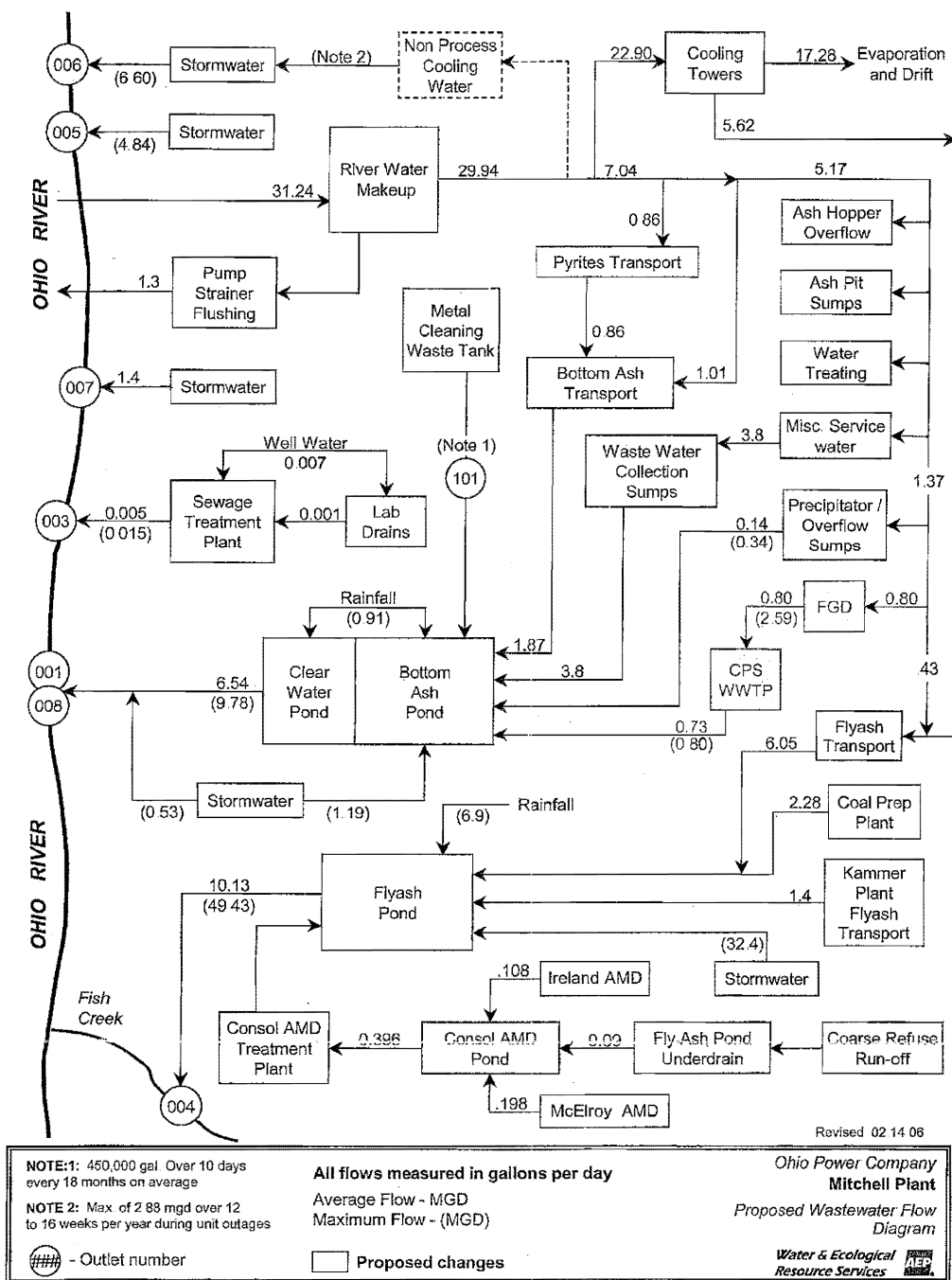


Figure 6-3. Schematic Water Flow Diagram - Mitchell Plant

The Mitchell Power Plant outfalls are regulated under NPDES Permit # WV0005304 issued September 7, 2005. A review of discharge monitoring data provided on PCS indicates that the facility is presently and routinely in compliance with applicable permit conditions with no current repeated or systemic permit noncompliance issues. From the second quarter of 2007 (April through June) through the second quarter of 2008, the facility was noncompliant for total selenium in Outfall 004 fly ash pond discharge. In the second quarter of 2008, this issued was reportedly resolved with the Outfall 004 discharge returning to compliance with total selenium limits. Per facility personnel, the noncompliance was attributed to start-up of the flue gas desulfurization unit that was installed at that time. Operational modifications were necessary during this time to optimize performance and to eventually achieve discharge compliance. Based on visual inspection of facility outfalls, there are no unusual conditions or observances to report.

During the facility inspection, SAIC reviewed facility conditions regarding stormwater best management practices. There was one location at the facility where boiler clean-out wastes were being stored. This area was located immediately outside of the boilers near the cooling tower. There were several instances where material such as waste debris was stored exposed to precipitation (see Figures 6-4 through 6-6 below).



Figure 6-4. Exposed Material: Mitchell Power Plant



Figure 6-5. Exposed Material: Mitchell Power Plant



Figure 6-6. Exposed Material: Mitchell Power Plant

SAIC also reviewed the Mitchell Power Plant facility operations regarding spill prevention, control and countermeasure planning. Back-up fuel (heating oil #2) is stored in a field-constructed aboveground storage tank (see Figure 6-7). Facility personnel were unable to provide integrity tank testing results and did not know if the tank had ever been tested since construction in the 1970s. In addition, the containment system for this tank is composed of an earthen berm with a membrane barrier. A pump is used to eject accumulated rainwater in the containment system to one of the stormwater outfall points. The master control switch (electric switch on pump motor) that turns on the discharge pump is located in a shed adjacent to the tank (see Figure 6-8). Neither the switch nor the door on this shed is maintained locked to avoid unauthorized discharge prior to inspection. Additionally, it was observed that sixteen 55-gallon drums of various types of petroleum oils (such as lubricants) were stored without containment (see Figures 6-9 and 6-10).

SAIC could not perform a review of the facility's Stormwater Pollution Prevention Plan, Facility Response Plan or Spill, Prevention, Control and Countermeasure Plan because of the time needed to conduct the sampling and site inspection, and also the Plans were not available for review.



Figure 6-7. Fuel Oil Storage Tank: Mitchell Power Plant



Figure 6-8. Fuel Oil Storage Tank: Mitchell Power Plant



Figure 6-9. Bulk Oil Containers without Containment: Mitchell Power Plant



Figure 6-10. Bulk Oil Containers without Containment: Mitchell Power Plant

7.0 References

¹SAIC. 2009. *Quality Assurance Project Plan for Power Plant Waste Management Compliance Investigations*. Science Applications International Corporation. June 2009.

APPENDIX A

GOOGLE EARTH PHOTOS



Mitchell Plant Overview



Far North End of Mitchell Plant



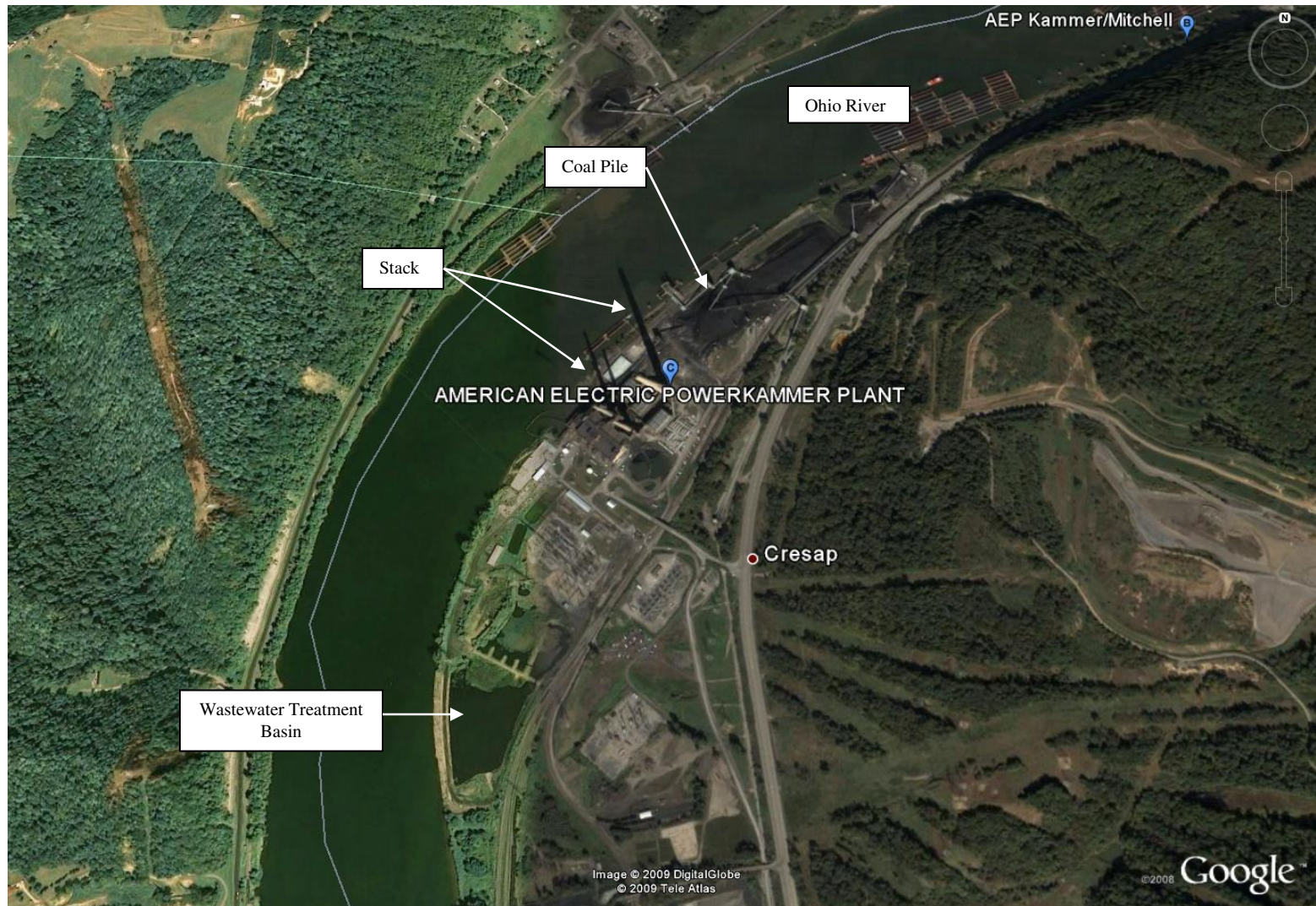
North-Central End of Mitchell Plant



Central Area of Mitchell Plant



South End of Mitchell Plant



Kammer Plant Overview

APPENDIX B

PHOTOLOG

Photologs for this project prepared by Mr. Martin Matlin of EPA Region 3 and submitted with his report.

APPENDIX C

CHAIN OF CUSTODY FORMS

Draft Report

Microbac**Baltimore Division**

Baltimore, MD 21224

Tel: 410-633-1800

Fax: 410-633-8553

www.microbac.com


**Sample Submittal
Chain of Custody Record**

Work Order Number: _____

Page 3 of 3

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|---|-----------------------------|---|-----------|--|---------------------------------|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------|
| Client Name <u>SAIC</u> | | Project <u>EPA-CCW</u> | | Turnaround Time (Required) | | QC and EDD Type (Required) | | | | | | |
| Address <u>12100 Sunset Hills Road</u> | | Location <u>Moundsville, WV</u> | | <input checked="" type="checkbox"/> Standard | | <input type="checkbox"/> Level I (NAC) | | | | | | |
| City, State, Zip <u>Reston, VA 20190</u> | | PO # _____ | | <input type="checkbox"/> RUSH* (notify lab) | | <input checked="" type="checkbox"/> EDD | | | | | | |
| Contact <u>Brandon Peables</u> | | Compliance Monitoring? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | _____ (needed by) | | <input type="checkbox"/> Level II ** | | | | | | |
| Telephone # <u>703-375-2264</u> | | (1) Agency/Program <u>EPA</u> | | | | <input checked="" type="checkbox"/> Level III ** | | | | | | |
| Sampled by (PRINT) <u>Brandon Peables</u> | | Sampler Signature <u>[Signature]</u> | | Sampler Phone # <u>703-375-2264</u> | | Format: <u>Excel</u> | | | | | | |
| Send Report via <input checked="" type="checkbox"/> e-mail (address) <u>peablesb@saic.com</u> | | <input checked="" type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> Fax (fax #) _____ | | Comments: _____ | | | | | | | | |
| * Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify) | | | | | | | | | | | | |
| Client Sample ID | Matrix* | Grab | Composite | Filtered | Date Collected | Time Collected | No. of Containers | Requested Analysis | | | | Comments |
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| Possible Hazard Identification | | <input type="checkbox"/> Hazardous <input checked="" type="checkbox"/> Non-Hazardous <input type="checkbox"/> Radioactive | | Sample Disposition | | <input checked="" type="checkbox"/> Dispose as appropriate <input type="checkbox"/> Return <input type="checkbox"/> Archive | | | | | | |
| Number of Containers: | Relinquished By (signature) | Printed Name/Affiliation | | Date/Time | Received By (signature) | | Printed Name/Affiliation | | | | | |
| Cooler Number: | <u>[Signature]</u> | <u>Brandon Peables</u> | | <u>6/25/09 17:39</u> | | | | | | | | |
| Temp upon receipt(*C): | Relinquished By (signature) | Printed Name/Affiliation | | Date/Time | Received By (signature) | | Printed Name/Affiliation | | | | | |
| Sample Received on Ice or Refrigerated from Client: Yes / No | Relinquished By (signature) | Printed Name/Affiliation | | Date/Time | Received for Lab By (signature) | | Printed Name/Affiliation | | | | | |

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|---|---------|--|-----------|---|----------------|--|-------------------|--|-------------------------------------|-------------------------------------|--|----------------------------------|--|--|--|--|--|----------|--|--|
| | | Baltimore Division Baltimore, MD 21224 Tel: 410-633-1800 Fax: 410-633-6553 www.microbac.com | | Sample Submittal Chain of Custody Record | | Work Order Number: _____ | | | | | | | | | | | | | | |
| | | Page <u>4</u> of ____ | | | | | | | | | | | | | | | | | | |
| Client Name <u>SAIC</u> | | Project <u>EPA - CCW</u> | | Turnaround Time (Required) | | QC and EDD Type (Required) | | | | | | | | | | | | | | |
| Address <u>12100 Sunset Hills Road</u> | | Location <u>Minersville, WV</u> | | <input checked="" type="checkbox"/> Standard | | <input type="checkbox"/> Level I (NAC) | | | | | | | | | | | | | | |
| City, State, Zip <u>Reston, VA 20190</u> | | PO # _____ | | <input type="checkbox"/> RUSH* (notify lab) | | <input type="checkbox"/> Level II ** | | | | | | | | | | | | | | |
| Contact <u>Brandon Peebles</u> | | Compliance Monitoring? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | _____ (needed by) | | <input checked="" type="checkbox"/> Level III ** | | | | | | | | | | | | | | |
| Telephone # <u>703-375-2664</u> | | (1) Agency/Program <u>EPA</u> | | | | <input type="checkbox"/> Level IV ** | | | | | | | | | | | | | | |
| Sampled by (PRINT) <u>Brandon Peebles</u> | | Sampler Signature <u>[Signature]</u> | | Sampler Phone # <u>703-375-2664</u> | | | | | | | | | | | | | | | | |
| Send Report via <input checked="" type="checkbox"/> e-mail (address) <u>peebles.b@saic.com</u> | | <input checked="" type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> Fax (fax #) _____ | | | | | | | | | | | | | | | | | | |
| * Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify) _____ | | | | | | | | | | | | | | | | | | | | |
| Client Sample ID | Matrix* | Grab | Composite | Filtered | Date Collected | Time Collected | No. of Containers | Requested Analysis | | | | | | | | | | Comments | | |
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| Possible Hazard Identification | | <input type="checkbox"/> Hazardous <input checked="" type="checkbox"/> Non-Hazardous | | <input type="checkbox"/> Radioactive | | Sample Disposition | | <input checked="" type="checkbox"/> Dispose as appropriate | | <input type="checkbox"/> Return | | <input type="checkbox"/> Archive | | | | | | | | |
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| Temp upon receipt(°C): | | Relinquished By (signature) | | Printed Name/Affiliation | | Date/Time | | Received By (signature) | | Printed Name/Affiliation | | | | | | | | | | |
| Sample Received on Ice or Refrigerated from Client: Yes / No | | Relinquished By (signature) | | Printed Name/Affiliation | | Date/Time | | Received for Lab By (signature) | | Printed Name/Affiliation | | | | | | | | | | |

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|  | Baltimore Division Baltimore, MD 21224 Tel: 410-633-1800 Fax: 410-633-6553 www.microbac.com | | Sample Submittal Chain of Custody Record | | Work Order Number: _____ |
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| Client Name <u>SAC</u> | Project <u>EPA - CCW</u> | Turnaround Time (Required) | QC and EDD Type (Required) |
| Address <u>12100 Sunset Hills Road</u> | Location <u>Mountainside, WV</u> | <input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH* (notify lab) _____ (needed by) | <input type="checkbox"/> Level I (NAC) <input type="checkbox"/> Level II ** <input checked="" type="checkbox"/> Level III ** <input type="checkbox"/> Level IV ** |
| City, State, Zip <u>Keston, VA 20890</u> | PO # _____ | | Format: <u>Excel</u> Comments: _____ |
| Contact <u>Brianne Peebles</u> | Compliance Monitoring? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Telephone # <u>703-375-2264</u> | (1) Agency/Program <u>EPA</u> | | |

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|---|--------------------------------------|-------------------------------------|
| Sampled by (PRINT) <u>Brianne Peebles</u> | Sampler Signature <u>[Signature]</u> | Sampler Phone # <u>703-375-2264</u> |
| Send Report via <input checked="" type="checkbox"/> e-mail (address) <u>peeblesb@saic.com</u> <input type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> Fax (fax #) _____ | | |

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

| Client Sample ID | Matrix* | Grab | Composite | Filtered | Date Collected | Time Collected | No. of Containers | Requested Analysis | | | | | | Comments |
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| Possible Hazard Identification <input type="checkbox"/> Hazardous <input checked="" type="checkbox"/> Non-Hazardous <input type="checkbox"/> Radioactive | Sample Disposition <input checked="" type="checkbox"/> Dispose as appropriate <input type="checkbox"/> Return <input type="checkbox"/> Archive | | | |
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| Cooler Number: _____ Temp upon receipt(°C): _____ | Relinquished By (signature) _____ | Printed Name/Affiliation _____ | Date/Time _____ | Received By (signature) _____ |
| Sample Received on Ice or Refrigerated from Client: Yes / No | Relinquished By (signature) _____ | Printed Name/Affiliation _____ | Date/Time _____ | Received for Lab By (signature) _____ |

Draft Report

| | | | | | | | | | | | | | | | | | |
|---|--|--|-------------------------------------|---|----------|--|----------------|--|--|-------------------------------------|-------------------------------------|-------------------------------------|--|--|--|--|----------|
| | | Baltimore Division Baltimore, MD 21224 Tel: 410-633-1800 Fax: 410-633-6553 www.microbac.com | | Sample Submittal Chain of Custody Record | | Work Order Number: _____ | | | | | | | | | | | |
| | | Page <u>1</u> of <u>1</u> | | | | | | | | | | | | | | | |
| Client Name <u>SAIC</u> | | Project <u>EPA-CCW</u> | | Turnaround Time (Required) | | QC and EDD Type (Required) | | | | | | | | | | | |
| Address <u>12100 Sunset Hills Rd</u> | | Location <u>Moundsville, WV</u> | | <input checked="" type="checkbox"/> Standard | | <input type="checkbox"/> Level I (NAC) | | | | | | | | | | | |
| City, State, Zip <u>Reston, VA 20190</u> | | PO # _____ | | <input type="checkbox"/> RUSH* (notify lab) | | <input type="checkbox"/> Level II ** | | | | | | | | | | | |
| Contact <u>Brandon Peebles</u> | | Compliance Monitoring? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | (needed by) _____ | | <input checked="" type="checkbox"/> Level III ** | | | | | | | | | | | |
| Telephone # <u>703-375-2264</u> | | (1) Agency/Program <u>EPA</u> | | | | <input type="checkbox"/> Level IV ** | | | | | | | | | | | |
| Sampled by (PRINT) <u>Brandon Peebles</u> | | Sampler Signature <u>[Signature]</u> | | Sampler Phone # <u>703-375-2264</u> | | Format: <u>Excel</u> | | | | | | | | | | | |
| Send Report via <input checked="" type="checkbox"/> e-mail (address) <u>peeblesb@saic.com</u> | | <input checked="" type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> Fax (fax #) _____ | | Comments: _____ | | | | | | | | | | | | | |
| * Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify) _____ | | | | | | | | | | | | | | | | | |
| Client Sample ID | | Matrix* | Grab | Composite | Filtered | Date Collected | Time Collected | No. of Containers | Requested Analysis | | | | | | | | Comments |
| | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TCLP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Volatiles</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SWC/PCB</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Injunct. React., PH</div> </div> | | | | | | | | |
| MS-1 | | S | <input checked="" type="checkbox"/> | | | 6/26/09 | 9:10 | 6 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | |
| MS-2 | | S | <input checked="" type="checkbox"/> | | | 6/26/09 | 10:15 | 6 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | |
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| Possible Hazard Identification | | <input type="checkbox"/> Hazardous <input checked="" type="checkbox"/> Non-Hazardous | | <input type="checkbox"/> Radioactive | | Sample Disposition | | <input checked="" type="checkbox"/> Dispose as appropriate | | <input type="checkbox"/> Return | | <input type="checkbox"/> Archive | | | | | |
| Number of Containers: | | Relinquished By (signature) | | Printed Name/Affiliation | | Date/Time | | Received By (signature) | | Printed Name/Affiliation | | | | | | | |
| Cooler Number: | | <u>[Signature]</u> | | <u>Brandon Peebles</u> | | <u>6/26/09 13:10</u> | | | | | | | | | | | |
| Temp upon receipt(°C): | | Relinquished By (signature) | | Printed Name/Affiliation | | Date/Time | | Received By (signature) | | Printed Name/Affiliation | | | | | | | |
| Sample Received on Ice or Refrigerated from Client: Yes / No | | Relinquished By (signature) | | Printed Name/Affiliation | | Date/Time | | Received for Lab By (signature) | | Printed Name/Affiliation | | | | | | | |

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|--|--|--|---|--|--------------------------|--|
| | Baltimore Division Baltimore, MD 21224 Tel: 410-633-1800 Fax: 410-633-6553 www.microbac.com | | Sample Submittal Chain of Custody Record | | Work Order Number: _____ | |
| | Page <u>1</u> of <u>1</u> | | | | | |


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| Client Name <u>SAIC</u> | Project <u>FPA - CCW</u> | Turnaround Time (Required) | QC and EDD Type (Required) |
| Address <u>12100 Sunset Hills Rd</u> | Location <u>Mountville, WV</u> | <input checked="" type="checkbox"/> Standard | <input type="checkbox"/> Level I (NAC) |
| City, State, Zip <u>Reston, VA 20190</u> | PO # _____ | <input type="checkbox"/> RUSH* (notify lab) | <input type="checkbox"/> Level II ** |
| Contact <u>Brandon Peebles</u> | Compliance Monitoring? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | _____ (needed by) | <input checked="" type="checkbox"/> Level III ** |
| Telephone # <u>703-375-2264</u> | (1) Agency/Program <u>EPA</u> | | <input type="checkbox"/> Level IV ** |

| | | |
|---|--|-------------------------------------|
| Sampled by (PRINT) <u>Brandon Peebles</u> | Sampler Signature <u>[Signature]</u> | Sampler Phone # <u>703-375-2264</u> |
| Send Report via <input checked="" type="checkbox"/> e-mail (address) <u>peeblesb@saic.com</u> | <input checked="" type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> Fax (fax #) _____ | |

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify) _____

| Client Sample ID | Matrix* | Grab | Composite | Filtered | Date Collected | Time Collected | No. of Containers | Requested Analysis | | | | | | Comments |
|------------------|---------|-------------------------------------|-----------|----------|----------------|----------------|-------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------|
| | | | | | | | | TCLP | Volatiles | SWOC / PCB | Metals | Ignitability | Reactivity | |
| MW-2 | WW | <input checked="" type="checkbox"/> | | | 6/26/09 | 11:00 | 12 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
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| Possible Hazard Identification <input type="checkbox"/> Hazardous <input checked="" type="checkbox"/> Non-Hazardous <input type="checkbox"/> Radioactive | | Sample Disposition <input checked="" type="checkbox"/> Dispose as appropriate <input type="checkbox"/> Return <input type="checkbox"/> Archive | | | |
| Number of Containers: _____ | Relinquished By (signature) <u>[Signature]</u> | Printed Name/Affiliation <u>Brandon Peebles</u> | Date/Time <u>6/26/09 12:20</u> | Received By (signature) _____ | Printed Name/Affiliation _____ |
| Cooler Number: _____ | Relinquished By (signature) _____ | Printed Name/Affiliation _____ | Date/Time _____ | Received By (signature) _____ | Printed Name/Affiliation _____ |
| Temp upon receipt(°C): _____ | Relinquished By (signature) _____ | Printed Name/Affiliation _____ | Date/Time _____ | Received for Lab By (signature) _____ | Printed Name/Affiliation _____ |
| Sample Received on Ice or Refrigerated from Client: Yes / No | Relinquished By (signature) _____ | Printed Name/Affiliation _____ | Date/Time _____ | Received for Lab By (signature) _____ | Printed Name/Affiliation _____ |

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|--|--|--|---|---|--------------------------|--|----------------|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------|--|--|
|  | Baltimore Division Baltimore, MD 21224 Tel: 410-633-1800 Fax: 410-633-6553 www.microbac.com | | Sample Submittal Chain of Custody Record | | Work Order Number: _____ | | | | | | | | | | | | |
| | Page <u>1</u> of <u>1</u> | | | | | | | | | | | | | | | | |
| Client Name <u>SAIC</u> | | Project <u>EPA - CCW</u> | | Turnaround Time (Required) | | QC and EDD Type (Required) | | | | | | | | | | | |
| Address <u>12100 Sunset Hills Road</u> | | Location <u>Moundville, WV</u> | | <input checked="" type="checkbox"/> Standard | | <input type="checkbox"/> Level I (NAC) | | | | | | | | | | | |
| City, State, Zip <u>Reston, VA 20190</u> | | PO # _____ | | <input type="checkbox"/> RUSH* (notify lab) | | <input type="checkbox"/> Level II ** | | | | | | | | | | | |
| Contact <u>Brandon Peebles</u> | | Compliance Monitoring? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | _____ (needed by) | | <input checked="" type="checkbox"/> Level III ** | | | | | | | | | | | |
| Telephone # <u>703-375-2264</u> | | (1) Agency/Program <u>EPA</u> | | | | <input type="checkbox"/> Level IV ** | | | | | | | | | | | |
| Sampled by (PRINT) <u>Brandon Peebles</u> | | Sampler Signature <u>[Signature]</u> | | Sampler Phone # <u>703-375-2264</u> | | | | | | | | | | | | | |
| Send Report via <input checked="" type="checkbox"/> e-mail (address) <u>peeblesb@saic.com</u> | | <input checked="" type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> Fax (fax #) _____ | | | | | | | | | | | | | | | |
| * Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify) | | | | | | | | | | | | | | | | | |
| Client Sample ID | | Matrix* | Grab | Composite | Filtered | Date Collected | Time Collected | No. of Containers | Requested Analysis | | | | | | Comments | | |
| | | | | | | | | | TCLP | Volatiles | SWC / PCB | Ignitability | Metals | Reactivity | | | |
| <u>MW-3480</u> | | <u>DW</u> | <input checked="" type="checkbox"/> | | | <u>6/26/09</u> | <u>11:10</u> | <u>12</u> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | |
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| Possible Hazard Identification <input type="checkbox"/> Hazardous <input checked="" type="checkbox"/> Non-Hazardous <input type="checkbox"/> Radioactive | | Sample Disposition <input checked="" type="checkbox"/> Dispose as appropriate <input type="checkbox"/> Return <input type="checkbox"/> Archive | | | | | | | | | | | | | | | |
| Number of Containers: _____ | | Relinquished By (signature) <u>[Signature]</u> | | Printed Name/Affiliation <u>Brandon Peebles</u> | | Date/Time <u>6/26/09 13:16</u> | | Received By (signature) _____ | | Printed Name/Affiliation _____ | | | | | | | |
| Cooler Number: _____ | | Relinquished By (signature) _____ | | Printed Name/Affiliation _____ | | Date/Time _____ | | Received By (signature) _____ | | Printed Name/Affiliation _____ | | | | | | | |
| Temp upon receipt(°C): _____ | | Relinquished By (signature) _____ | | Printed Name/Affiliation _____ | | Date/Time _____ | | Received for Lab By (signature) _____ | | Printed Name/Affiliation _____ | | | | | | | |
| Sample Received on Ice or Refrigerated from Client: Yes / No | | | | | | | | | | | | | | | | | |

Page 3 of 1

APPENDIX D

LAB RESULTS

| KAMMER VOC DATA | | | | | | | | | | | | |
|-----------------------------|-----------------|-------|-----|------------|-------|-----|------------|-------|-----|--------------|----------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | |
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| 1,1,1,2-Tetrachloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,1-Trichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2,2-Tetrachloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2,2-Tetrachloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2-Trichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2-Trichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1-Dichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1-Dichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | R2, U, D | |
| 1,1-Dichloropropylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,3-Trichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,3-Trichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,4-Trichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,4-Trimethylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dibromo-3-chloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dibromoethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,3,5-Trimethylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,3-Dichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,3-Dichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,4-Dichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 2,2-Dichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 2-Chloroethyl Vinyl Ether | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 2-Chlorotoluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 4-Chlorotoluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 4-Isopropyltoluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Acetone | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Acetonitrile | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Acrolein | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ |

| KAMMER VOC DATA | | | | | | | | | | | | |
|------------------------------------|-----------------|-------|-----|------------|-------|-----|------------|-------|-----|--------------|----------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | |
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| Acrylonitrile | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Allyl Chloride (3-Chloropropylene) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Benzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | R2, U, D | |
| Bromobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromochloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromodichloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromoform | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromomethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Butylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Carbon disulfide | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Carbon Tetrachloride | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ |
| Chlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloroform | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloroprene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| cis-1,2-Dichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| cis-1,3-Dichloropropylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Dibromochloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Dibromomethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Dichlorodifluoromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Ethyl Methacrylate | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Ethylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Hexachlorobutadiene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Iodomethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Isopropylbenzene (Cumene) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| m,p-Xylenes | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methacrylonitrile | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl Butyl Ketone (2-Hexanone) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl Ethyl Ketone (2-Butanone) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |

| KAMMER VOC DATA | | | | | | | | | | | | |
|-------------------------------|-----------------|-------|-----|------------|-------|-----|------------|-------|-----|--------------|-------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | |
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| Methyl Isobutyl Ketone | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl Methacrylate | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methylene Chloride | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl-tert-Butyl Ether | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Naphthalene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| o-Xylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Propionitrile (Ethyl Cyanide) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Propylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| sec-Butylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Styrene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| tert-Butylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Toluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Total Xylenes | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| trans-1,2-Dichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| trans-1,3-Dichloropropylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| trans-1,4-Dichloro-2-butene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Trichlorofluoromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Vinyl acetate | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Vinyl chloride | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |

| KAMMER SVOC DATA | | | | | | | | | | | | |
|--------------------------------|-----------------|-------|-----|------------|-------|-----|------------|-------|-----|--------------|-------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | |
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| 1,2,4-Trichlorobenzene | ND | U | | ND | U | | ND | U | | ND | U | |
| 1,2-Dichlorobenzene | ND | U | | ND | U | | ND | U | | ND | U | |
| 1,2-Diphenylhydrazine | ND | U | | ND | U | | ND | U | | ND | U | |
| 1,3-Dichlorobenzene | ND | U | | ND | U | | ND | U | | ND | U | |
| 1,4-Dichlorobenzene | ND | U | | ND | U | | ND | U | | ND | U | |
| 2,4,5-Trichlorophenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 2,4,6-Trichlorophenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 2,4-Dichlorophenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 2,4-Dimethylphenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 2,4-Dinitrophenol | ND | L3, U | | ND | L3, U | | ND | L3, U | | ND | U | |
| 2,4-Dinitrotoluene | ND | U | | ND | U | | ND | U | | ND | U | |
| 2,6-Dinitrotoluene | ND | U | | ND | U | | ND | U | | ND | U | |
| 2-Chloronaphthalene | ND | U | | ND | U | | ND | U | | ND | U | |
| 2-Chlorophenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 2-Methylnaphthalene | ND | U | | ND | U | | ND | U | | ND | U | |
| 2-Methylphenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 2-Nitroaniline | ND | U | | ND | U | | ND | U | | ND | U | |
| 2-Nitrophenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 3,3'-Dichlorobenzidine | ND | U | | ND | U | | ND | U | | ND | U | |
| 3-Nitroaniline | ND | U | | ND | U | | ND | U | | ND | U | |
| 4,6-Dinitro-2-methylphenol | ND | L3, U | | ND | L3, U | | ND | L3, U | | ND | U | |
| 4-Bromophenyl-phenylether | ND | U | | ND | U | | ND | U | | ND | U | |
| 4-Chloro-3-methylphenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 4-Chloroaniline | ND | U | | ND | U | | ND | U | | ND | U | |
| 4-Chlorophenyl-phenylether | ND | U | | ND | U | | ND | U | | ND | U | |
| 4-Methylphenol, 3-Methylphenol | ND | U | | ND | U | | ND | U | | ND | U | |
| 4-Nitroaniline | ND | U | | ND | U | | ND | U | | ND | U | |
| 4-Nitrophenol | ND | U | | ND | U | | ND | U | | ND | U | |
| Acenaphthene | ND | U | | ND | U | | ND | U | | ND | U | |
| Acenaphthylene | ND | U | | ND | U | | ND | U | | ND | U | |

| KAMMER SVOC DATA | | | | | | | | | | | | |
|-----------------------------|-----------------|-------|-----|------------|-------|-----|------------|-------|-----|--------------|-------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | |
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| Aniline | ND | U | | ND | U | | ND | U | | ND | U | |
| Anthracene | ND | U | | ND | U | | ND | U | | ND | U | |
| Benz(a)anthracene | ND | U | | ND | U | | ND | U | | ND | U | |
| Benzidine | ND | U | | ND | U | | ND | U | | ND | U | |
| Benzo[a]pyrene | ND | U | | ND | U | | ND | U | | ND | U | |
| Benzo[b]fluoranthene | ND | U | | ND | U | | ND | U | | ND | U | |
| Benzo[g,h,i]perylene | ND | U | | ND | U | | ND | U | | ND | U | |
| Benzo[k]fluoranthene | ND | U | | ND | U | | ND | U | | ND | U | |
| Benzoic Acid | ND | U | | ND | U | | ND | U | | ND | U | |
| Benzyl alcohol | ND | U | | ND | U | | ND | U | | ND | U | |
| bis(2-Chloroethoxy)methane | ND | U | | ND | U | | ND | U | | ND | U | |
| Bis(2-Chloroethyl)ether | ND | U | | ND | U | | ND | U | | ND | U | |
| Bis(2-chloroisopropyl)ether | ND | U | | ND | U | | ND | U | | ND | U | |
| Bis(2-Ethylhexyl)phthalate | ND | U | | ND | U | | ND | U | | ND | U | |
| Butylbenzylphthalate | ND | U | | ND | U | | ND | U | | ND | U | |
| Carbazole | ND | U | | ND | U | | ND | U | | ND | U | |
| Chrysene | ND | U | | ND | U | | ND | U | | ND | U | |
| Dibenz[a,h]anthracene | ND | U | | ND | U | | ND | U | | ND | U | |
| Dibenzofuran | ND | U | | ND | U | | ND | U | | ND | U | |
| Diethylphthalate | ND | U | | ND | U | | ND | U | | ND | U | |
| Dimethylphthalate | ND | U | | ND | U | | ND | U | | ND | U | |
| Di-n-butylphthalate | ND | U | | ND | U | | ND | U | | ND | U | |
| Di-n-octylphthalate | ND | U | | ND | U | | ND | U | | ND | U | |
| Fluoranthene | ND | U | | ND | U | | ND | U | | ND | U | |
| Fluorene | ND | U | | ND | U | | ND | U | | ND | U | |
| Hexachlorobenzene | ND | U | | ND | U | | ND | U | | ND | U | |
| Hexachlorobutadiene | ND | U | | ND | U | | ND | U | | ND | U | |
| Hexachlorocyclopentadiene | ND | U | | ND | U | | ND | U | | ND | U | |
| Hexachloroethane | ND | U | | ND | U | | ND | U | | ND | U | |
| Indeno[1,2,3-cd]pyrene | ND | U | | ND | U | | ND | U | | ND | U | |

| KAMMER SVOC DATA | | | | | | | | | | | | |
|----------------------------|-----------------|-------|-----|------------|-------|-----|------------|-------|-----|--------------|-------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | |
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| Isophorone | ND | U | | ND | U | | ND | U | | ND | U | |
| Naphthalene | ND | U | | ND | U | | ND | U | | ND | U | |
| Nitrobenzene | ND | U | | ND | U | | ND | U | | ND | U | |
| N-Nitrosodimethylamine | ND | U | | ND | U | | ND | U | | ND | U | |
| N-Nitroso-di-n-propylamine | ND | U | | ND | U | | ND | U | | ND | U | |
| N-Nitrosodiphenylamine | ND | U | | ND | U | | ND | U | | ND | U | |
| Pentachlorophenol | ND | L3, U | UJ | ND | L3, U | UJ | ND | L3, U | UJ | ND | U | UJ |
| Phenanthrene | ND | U | | ND | U | | ND | U | | ND | U | |
| Phenol | ND | U | | ND | U | | ND | U | | ND | U | |
| Pyrene | ND | U | | ND | U | | ND | U | | ND | U | |
| Pyridine | ND | U | | ND | U | | ND | U | | ND | U | |

| | | | | | | | | | | | | |
|------------------------|------------------------|-------|-----|------------|-------|-----|------------|-------|-----|---------------------|-------|-----|
| KAMMER PCB DATA | | | | | | | | | | | | |
| | Aqueous Samples | | | | | | | | | Soil Samples | | |
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| Aroclor 1016 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| Aroclor 1221 | ND | U | | ND | U | | ND | U | | ND | U | |
| Aroclor 1232 | ND | U | | ND | U | | ND | U | | ND | U | |
| Aroclor 1242 | ND | U | | ND | U | | ND | U | | ND | U | |
| Aroclor 1248 | ND | U | | ND | U | | ND | U | | ND | U | |
| Aroclor 1254 | ND | U | | ND | U | | ND | U | | ND | U | |
| Aroclor 1260 | ND | U | | ND | U | | ND | U | | ND | U | |
| Total PCBs | ND | U | | ND | U | | ND | U | | ND | U | |

| KAMMER Metals DATA | | | | | | | | | | | | |
|--------------------|------------|--------|-----|------------|--------|-----|------------|-------|-----|------------|-------|-----|
| Field Sample ID | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/kg | Lab Q | DVQ |
| Aluminum | 0.58 | | | 0.27 | | | 0.23 | | | 5400 | | |
| Antimony | ND | L2, M2 | | ND | L2, M2 | | ND | | | ND | V4 | J |
| Arsenic | ND | | J | 0.0051 | | J | 0.0063 | | J | 80 | | |
| Barium | 0.074 | | | 0.051 | | | 0.24 | | | 75 | | |
| Beryllium | ND | | | ND | | | ND | | | ND | | |
| Cadmium | 0.0012 | | | 0.00074 | | | 0.0053 | | | 0.59 | | |
| Calcium | 52 | B2 | | 38 | B2 | | 170 | B2 | | 5700 | | |
| Chromium | ND | | | ND | | | ND | | | 11 | | |
| Cobalt | ND | | | ND | | | ND | | | ND | | |
| Copper | 0.0059 | | | 0.0080 | | | 0.017 | | | 12 | | |
| Iron | 1.6 | | | 0.51 | | | 3.1 | | | 17000 | B2 | |
| Lead | ND | | | ND | | | ND | | | ND | | |
| Magnesium | 12 | | | 8.8 | | | 39 | | | 1000 | | |
| Manganese | 0.10 | | | 0.077 | | | 0.27 | | | 190 | | |
| Nickel | ND | | | ND | | | ND | | | ND | | |
| Potassium | 3.4 | | J | 2.7 | | J | 11 | | J | 730 | B2 | J |
| Selenium | ND | | J | ND | | J | ND | | J | ND | | J |
| Silver | ND | | | ND | | | ND | | | ND | | |
| Sodium | 87 | | | 39 | | | 500 | | | ND | | |
| Thallium | ND | | | ND | | | 0.027 | | | ND | | |
| Vanadium | ND | | | ND | | | ND | | | 19 | | |
| Zinc | ND | | | ND | | | ND | | | 78 | | |
| Mercury | ND | | | ND | | | ND | | | 0.12 | D | |
| pH | 8.8 | H6 | J | 7.8 | H6 | J | 7.6 | H6 | J | 7.2 | | |
| % Solids | na | | | na | | | na | | | 51.55 | | |
| Ignitability | >200 °F | | J | >200 °F | | J | >200 °F | | J | ND | | J |
| Reactive Cyanide | ND | | J | ND | | J | ND | | J | ND | | J |
| Reactive Sulfide | 50 | H1 | J | 40 | H1 | J | 26 | H1 | J | ND | H1 | J |

| KAMMER TCLP DATA | | | | | | | | | | | | | |
|----------------------------------|--------------------------------|------------|-------|-----|------------|-------|-----|------------|-------|-----|------------|--------------|-----|
| Field Sample ID | TCLP Regulatory Criteria | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | mg/l | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ |
| Arsenic | 5 | ND | D | | ND | D | | ND | D | | ND | D | |
| Barium | 100 | ND | D | | ND | D | | 0.27 | D | J | 0.60 | D | J |
| Cadmium | 1 | ND | D | | ND | D | | ND | D | | ND | D | |
| Chromium | 5 | ND | D | | ND | D | | ND | D | | ND | D | |
| Lead | 5 | ND | D | | ND | D | | ND | D | | ND | D | |
| Selenium | 1 | ND | D | | ND | D | | ND | D | | ND | D | |
| Silver | 5 | ND | D | | ND | D | | ND | D | | ND | D | |
| Mercury | 0.2 | ND | D | | ND | D | | ND | D | | ND | D | |
| | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethylene | 0.07 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| 1,1,2-Trichloroethylene | 0.5 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| 1,1-Dichloroethylene | 0.7 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, R2, U, D | |
| 1,2-Dichloroethane | 0.5 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| Benzene | 0.5 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, R2, U, D | |
| Carbon Tetrachloride | 0.5 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| Chlorobenzene | 100 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| Chloroform | 6 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| Methyl Ethyl Ketone (2-Butanone) | 200 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| Vinyl chloride | 0.2 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | |
| | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | 7.5 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| 2,4,5-Trichlorophenol | 400 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| 2,4,6-Trichlorophenol | 2 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| 2,4-Dinitrotoluene | 0.13 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| Hexachlorobenzene | 0.13 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| Hexachlorobutadiene | 0.5 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| Hexachloroethane | 3 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| meta/para-Cresol | 200 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| Nitrobenzene | 2 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| o-Cresol | 200 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| Pentachlorophenol | 100 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| Pyridine | 5 | ND | U | | ND | U | | ND | U | | ND | U | UJ |

| | | | | | | | | | | | | | |
|---------------------|--------------------------------|------------|-------|-----|------------|-------|-----|------------|-------|-----|------------|-------|-----|
| KAMMER TCLP DATA | | | | | | | | | | | | | |
| Field Sample ID | TCLP Regulatory Criteria | KW-1 | | | KW-2 | | | KW-3 | | | KS-1 | | |
| Lab Sample ID | | 09F0939-03 | | | 09F0939-02 | | | 09F0939-01 | | | 09F0939-04 | | |
| Matrix | | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | | 06/25/2009 | | |
| Units | mg/l | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ |
| Total Cresols | 200 | ND | U | | ND | U | | ND | U | | ND | U | UJ |
| | | | | | | | | | | | | | |
| Endrin | 0.02 | ND | U | | ND | U | | ND | U | | ND | U | |
| gamma-BHC | 0.4 | ND | U | | ND | U | | ND | U | | ND | U | |
| Heptachlor | 0.008 | ND | U | | ND | U | | ND | U | | ND | U | |
| Heptachlor epoxide | | ND | U | | ND | U | | ND | U | | ND | U | |
| Methoxychlor | 10 | ND | U | | ND | U | | ND | U | | ND | U | |
| Technical Chlordane | 0.3 | ND | U | | ND | U | | ND | U | | ND | U | |
| Toxaphene | 0.5 | ND | U | | ND | U | | ND | U | | ND | U | |
| | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 10 | ND | | UJ | ND | | UJ | ND | | UJ | ND | | UJ |
| 2,4-D | 1 | ND | | UJ | ND | | UJ | ND | | UJ | ND | | UJ |

| MITCHELL VOC DATA | | | | | | | | | | | | | | | |
|------------------------------------|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | | | | |
| Field Sample ID | MW-1 | | | MW-2 | | | MW-3 | | | MW-4 | | | MS-1 | | |
| Lab Sample ID | 09F0966-01 | | | 09F0966-02 | | | 09F0966-03 | | | 09F0966-04 | | | 09F0966-05 | | |
| Matrix | Water | | | Water | | | Water | | | Water | | | Solid | | |
| Sample Date | 08/28/2009 09:00:00 | | | 08/28/2009 11:00:00 | | | 08/28/2009 11:50:00 | | | 08/28/2009 11:10:00 | | | 08/28/2009 09:10:00 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| 1,1,1,2-Tetrachloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,1-Trichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2,2-Tetrachloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2,2-Tetrachloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2-Trichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1,2-Trichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1-Dichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1-Dichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,1-Dichloropropylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,3-Trichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,3-Trichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,4-Trichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2,4-Trimethylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dibromo-3-chloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dibromoethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dichloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,2-Dichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,3,5-Trimethylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,3-Dichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,3-Dichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 1,4-Dichlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 2,2-Dichloropropane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 2-Chloroethyl Vinyl Ether | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 2-Chlorotoluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 4-Chlorotoluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| 4-Isopropyltoluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Acetone | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Acetonitrile | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Acrolein | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ |
| Acrylonitrile | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Allyl Chloride (3-Chloropropylene) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Benzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromochloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromodichloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromoform | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Bromomethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Butylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Carbon disulfide | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Carbon Tetrachloride | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | UJ | ND | U, D | |
| Chlorobenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloroethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloroform | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Chloroprene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |

| MITCHELL VOC DATA | | | | | | | | | | | | | | | | | | |
|----------------------------------|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|
| | Aqueous Samples | | | | | | | | | | | | Soil Samples | | | | | |
| Field Sample ID | MW-1 | | | MW-2 | | | MW-3 | | | MW-4 | | | MS-1 | | | MS-2 | | |
| Lab Sample ID | 09F0988-01 | | | 09F0988-02 | | | 09F0988-03 | | | 09F0988-04 | | | 09F0988-05 | | | 09F0988-06 | | |
| Matrix | Water | | | Water | | | Water | | | Water | | | Solid | | | Solid | | |
| Sample Date | 08/28/2009 09:00:00 | | | 08/28/2009 11:00:00 | | | 08/28/2009 11:50:00 | | | 08/28/2009 11:10:00 | | | 08/28/2009 09:10:00 | | | 08/28/2009 10:15:00 | | |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ | ug/kg | Lab Q | DVQ |
| cis-1,2-Dichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| cis-1,3-Dichloropropylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Dibromochloromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Dibromomethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Dichlorodifluoromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Ethyl Methacrylate | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Ethylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Hexachlorobutadiene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Iodomethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Isopropylbenzene (Cumene) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| m,p-Xylenes | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methacrylonitrile | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl Butyl Ketone (2-Hexanone) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl Ethyl Ketone (2-Butanone) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl Isobutyl Ketone | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl Methacrylate | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Methylene Chloride | ND | U, D | | ND | U, D | | 82 | D, B | J | ND | U, D | | ND | U, D | | ND | U, D | |
| Methyl-tert-Butyl Ether | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Naphthalene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| o-Xylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Propionitrile (Ethyl Cyanide) | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Propylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| sec-Butylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Styrene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| tert-Butylbenzene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Toluene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Total Xylenes | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| trans-1,2-Dichloroethylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| trans-1,3-Dichloropropylene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| trans-1,4-Dichloro-2-butene | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Trichlorofluoromethane | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Vinyl acetate | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |
| Vinyl chloride | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | | ND | U, D | |

| MITCHELL SVOC DATA | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---------------------|-------|-------|---------------------|------|-------|---------------------|-----|------|---------------------|-------|-----|---------------------|---|-------|---------------------|-------|---|-------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | | | | | | | | | |
| Field Sample ID | MW-1 | | | MW-2 | | | MW-3 | | | MW-4 | | | MS-1 | | | MS-2 | | | | |
| Lab Sample ID | 09F0966-01 | | | 09F0966-02 | | | 09F0966-03 | | | 09F0966-04 | | | 09F0966-05 | | | 09F0966-06 | | | | |
| Matrix | Water | | | Water | | | Water | | | Water | | | Solid | | | Solid | | | | |
| Sample Date | 06/26/2009 09:00:00 | | | 06/26/2009 11:00:00 | | | 06/26/2009 11:50:00 | | | 06/26/2009 11:10:00 | | | 06/26/2009 09:10:00 | | | 06/26/2009 10:15:00 | | | | |
| Units | ug/l | | Lab Q | DVQ | ug/l | | Lab Q | DVQ | ug/l | | Lab Q | DVQ | ug/kg | | Lab Q | DVQ | ug/kg | | Lab Q | DVQ |
| 1,2,4-Trichlorobenzene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 1,2-Dichlorobenzene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 1,2-Diphenylhydrazine | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 1,3-Dichlorobenzene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 1,4-Dichlorobenzene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2,4,5-Trichlorophenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2,4,6-Trichlorophenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2,4-Dichlorophenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2,4-Dimethylphenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2,4-Dinitrophenol | ND | L3, U | | | ND | L3, U | | | ND | L3, U | | | ND | U | | | ND | U | | |
| 2,4-Dinitrotoluene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2,6-Dinitrotoluene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2-Chloronaphthalene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2-Chlorophenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2-Methylnaphthalene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2-Methylphenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2-Nitroaniline | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 2-Nitrophenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 3,3'-Dichlorobenzidine | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 3-Nitroaniline | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 4,6-Dinitro-2-methylphenol | ND | L3, U | | | ND | L3, U | | | ND | L3, U | | | ND | U | | | ND | U | | |
| 4-Bromophenyl-phenylether | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 4-Chloro-3-methylphenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 4-Chloroaniline | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 4-Chlorophenyl-phenylether | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 4-Methylphenol, 3-Methylphenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 4-Nitroaniline | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| 4-Nitrophenol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Acenaphthene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Acenaphthylene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Aniline | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Anthracene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzo(a)anthracene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzidine | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzo(a)pyrene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzo(b)fluoranthene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzo(g,h,i)perylene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzo(k)fluoranthene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzoic Acid | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Benzyl alcohol | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| bis(2-Chloroethoxy)methane | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Bis(2-Chloroethyl)ether | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Bis(2-chloroisopropyl)ether | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Bis(2-Ethylhexyl)phthalate | ND | U | | | ND | U | | | ND | U | | | 720 | | J | | ND | U | | |
| Butylbenzylphthalate | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Carbazole | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |
| Chrysene | ND | U | | | ND | U | | | ND | U | | | ND | U | | | ND | U | | |

| MITCHELL SVOC DATA | | | | | | | | | | | | | | | | |
|----------------------------|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|
| | Aqueous Samples | | | | | | | | | Soil Samples | | | | | | |
| Field Sample ID | MW-1 | | | MW-2 | | | MW-3 | | | MW-4 | | | MS-1 | | | MS-2 |
| Lab Sample ID | 09F0966-01 | | | 09F0966-02 | | | 09F0966-03 | | | 09F0966-04 | | | 09F0966-05 | | | 09F0966-06 |
| Matrix | Water | | | Water | | | Water | | | Water | | | Solid | | | Solid |
| Sample Date | 06/26/2009 09:00:00 | | | 06/26/2009 11:00:00 | | | 06/26/2009 11:50:00 | | | 06/26/2009 11:10:00 | | | 06/26/2009 09:10:00 | | | 06/26/2009 10:15:00 |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | ug/kg | Lab Q | DVQ | ug/kg |
| Dibenz[a,h]anthracene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Dibenzofuran | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Diethylphthalate | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Dimethylphthalate | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Di-n-butylphthalate | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Di-n-octylphthalate | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Fluoranthene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Fluorene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Hexachlorobenzene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Hexachlorobutadiene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Hexachlorocyclopentadiene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Hexachloroethane | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Indeno[1,2,3-cd]pyrene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Isophorone | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Naphthalene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Nitrobenzene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| N-Nitrosodimethylamine | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| N-Nitroso-di-n-propylamine | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| N-Nitrosodiphenylamine | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Pentachlorophenol | ND | L3, U | UJ | ND | L3, U | UJ | ND | L3, U | UJ | ND | L3, U | UJ | ND | U | UJ | M5, U |
| Phenanthrene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Phenol | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Pyrene | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |
| Pyridine | ND | U | | ND | U | | ND | U | | ND | U | | ND | U | | ND |

| MITCHELL PCB DATA | | | | | | | | | | | | | | | | | |
|-------------------|---------------------|-------|-----|---------------------|-------|-----|--|--|---------------------|-------|-----|--|--|---------------------|-------|-----|---------------------|
| Aqueous Samples | | | | | | | | | Soil Samples | | | | | | | | |
| Field Sample ID | MW-1 | | | MW-2 | | | | | MW-3 | | | | | MS-1 | | | MS-2 |
| Lab Sample ID | 09F0966-01 | | | 09F0966-02 | | | | | 09F0966-03 | | | | | 09F0966-05 | | | 09F0966-06 |
| Matrix | Water | | | Water | | | | | Water | | | | | Solid | | | Solid |
| Sample Date | 06/26/2009 09:00:00 | | | 06/26/2009 11:00:00 | | | | | 06/26/2009 11:50:00 | | | | | 06/26/2009 09:10:00 | | | 06/26/2009 10:15:00 |
| Units | ug/l | Lab Q | DVQ | ug/l | Lab Q | DVQ | | | ug/l | Lab Q | DVQ | | | ug/kg | Lab Q | DVQ | ug/kg |
| Aroclor 1016 | ND | U | | ND | U | | | | ND | U | | | | ND | U | UU | ND |
| Aroclor 1221 | ND | U | | ND | U | | | | ND | U | | | | ND | U | | ND |
| Aroclor 1232 | ND | U | | ND | U | | | | ND | U | | | | ND | U | | ND |
| Aroclor 1242 | ND | U | | ND | U | | | | ND | U | | | | ND | U | | ND |
| Aroclor 1248 | ND | U | | ND | U | | | | ND | U | | | | ND | U | | ND |
| Aroclor 1254 | ND | U | | ND | U | | | | ND | U | | | | ND | U | | ND |
| Aroclor 1260 | ND | U | | ND | U | | | | ND | U | | | | ND | U | | ND |
| Total PCBs | ND | U | | ND | U | | | | ND | U | | | | ND | U | | ND |

| MITCHELL METALS, CHEM DATA | | | | | | | | | | | | | | | | | | |
|----------------------------|---------------------|--------|-----|---------------------|--------|-----|---------------------|--------|-----|---------------------|--------|-----|---------------------|-------|-----|---------------------|-------|-----|
| | Aqueous Samples | | | | | | | | | Soil Samples | | | | | | | | |
| Field Sample ID | MW-1 | | | MW-2 | | | MW-3 | | | MW-4 | | | MS-1 | | | MS-2 | | |
| Lab Sample ID | 09F0966-01 | | | 09F0966-02 | | | 09F0966-03 | | | 09F0966-04 | | | 09F0966-05 | | | 09F0966-06 | | |
| Matrix | Water | | | Water | | | Water | | | Water | | | Solid | | | Solid | | |
| Sample Date | 06/26/2009 09:00:00 | | | 06/26/2009 11:00:00 | | | 06/26/2009 11:50:00 | | | 06/26/2009 11:10:00 | | | 06/26/2009 09:10:00 | | | 06/26/2009 10:15:00 | | |
| Units | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/kg | Lab Q | DVQ | mg/kg | Lab Q | DVQ |
| Aluminum | 0.52 | | | ND | | | 2.6 | | | ND | | | 13000 | | | 1600 | | |
| Antimony | ND | L2, M2 | | ND | M2, L2 | | ND | L2, M2 | | ND | L2, M2 | | ND | V4 | J | ND | V4 | J |
| Arsenic | ND | | J | 0.021 | | J | 0.0055 | | J | 0.018 | | J | 9.1 | | | ND | | |
| Barium | 0.051 | | | 0.052 | | | 0.065 | | | 0.052 | | | 130 | | | 16 | | |
| Beryllium | ND | | | ND | | | ND | | | 0.0024 | | | ND | | | ND | | |
| Cadmium | 0.00078 | | | 0.018 | | | 0.0019 | | | 0.017 | | | 1.5 | | | ND | | |
| Calcium | 31 | B2 | | 1300 | B2 | | 42 | B2 | | 1300 | B2 | | 15000 | | | 480 | | |
| Chromium | 0.012 | | | ND | | | 0.0090 | | | 0.0086 | | | 38 | | | 2.4 | | |
| Cobalt | ND | | | ND | | | ND | | | 0.0061 | | | 6.4 | | | ND | | |
| Copper | 0.020 | | | ND | | | 0.19 | | | ND | | | 120 | | | 3.6 | | |
| Iron | 0.95 | | | 0.43 | | | 2.1 | | | 0.45 | | | 30000 | B2 | | 4900 | B2 | |
| Lead | ND | | | ND | | | ND | | | ND | | | 34 | | | ND | | |
| Magnesium | 7.8 | | | 1200 | | | 3.9 | | | 1200 | | | 4100 | | | 93 | | |
| Manganese | 0.074 | | | 2.9 | | | 0.20 | | | 2.8 | | | 1500 | | | 9.1 | | |
| Nickel | 0.010 | | | 0.016 | | | ND | | | 0.026 | | | 35 | | | ND | | |
| Potassium | 2.4 | | J | 20 | | J | 2.0 | | J | 19 | | J | 1700 | B2 | | 170 | B2 | J |
| Selenium | ND | | | 0.15 | | | ND | | | 0.15 | | | 39 | | | ND | | |
| Silver | ND | | | ND | | | ND | | | ND | | | ND | | | ND | | |
| Sodium | 59 | | | 190 | | | 16 | | | 190 | | | ND | | | ND | | |
| Thallium | ND | | | 0.099 | | | ND | | | 0.094 | | | ND | | | ND | | |
| Vanadium | 0.0028 | | | ND | | | 0.018 | | | ND | | | 41 | | | 3.5 | | |
| Zinc | ND | | | ND | | | 0.93 | | | ND | | | 280 | | | ND | | |
| Mercury | ND | | | ND | | | ND | | | ND | | | 2.9 | D | | ND | D | |
| pH | 7.8 | H6 | J | 8.5 | H6 | J | 7.0 | H6 | J | 8.5 | H6 | J | 8.0 | | | 8.0 | | |
| % Solids | na | | | na | | | na | | | na | | | 47.82 | | | 83.80 | | |
| Ignitability | >200 °F | | J | >200 °F | | J | >200 °F | | J | >200 °F | | J | ND | | J | ND | | J |
| Reactive Cyanide | ND | | J | ND | | J | ND | | J | ND | | J | ND | | J | ND | | J |
| Reactive Sulfide | 19 | H1 | J | 46 | H1 | J | 42 | H1 | J | 28 | H1 | J | ND | H1 | J | 48 | H1 | J |

| MITCHELL TCLP DATA | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--------------------------------|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|-------|-----|---------------------|----------|-----|---------------------|----------|-----|
| Field Sample ID | TCLP Regulatory Criteria | MW-1 | | | MW-2 | | | MW-3 | | | MW-4 | | | MS-1 | | | MS-2 | | |
| Lab Sample ID | | 09F0966-01 | | | 09F0966-02 | | | 09F0966-03 | | | 09F0966-04 | | | 09F0966-05 | | | 09F0966-06 | | |
| Matrix | | Water | | | Water | | | Water | | | Water | | | Solid | | | Solid | | |
| Sample Date | | 06/26/2009 09:00:00 | | | 06/26/2009 11:00:00 | | | 06/26/2009 11:50:00 | | | 06/26/2009 11:10:00 | | | 06/26/2009 09:10:00 | | | 06/26/2009 10:15:00 | | |
| Units | mg/l | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ | mg/l | Lab Q | DVQ |
| Arsenic | 5 | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | |
| Barium | 100 | ND | D | | ND | D | | ND | D | | ND | D | | 0.62 | D | J | 0.26 | D | J |
| Cadmium | 1 | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | |
| Chromium | 5 | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | |
| Lead | 5 | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | |
| Selenium | 1 | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | |
| Silver | 5 | ND | | UJ | ND | D | UJ | ND | D | UJ | ND | D | UJ | ND | D | UJ | ND | D | UJ |
| Mercury | 0.2 | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | | ND | D | |
| | | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethylene | 0.07 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| 1,1,2-Trichloroethylene | 0.5 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| 1,1-Dichloroethylene | 0.7 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| 1,2-Dichloroethane | 0.5 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| Benzene | 0.5 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| Carbon Tetrachloride | 0.5 | ND | A2, U | UJ | ND | A2, U | UJ | ND | A2, U | UJ | ND | A2, U | UJ | ND | A2, U, D | | ND | A2, U, D | |
| Chlorobenzene | 100 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| Chloroform | 6 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| Methyl Ethyl Ketone (2-Butanone) | 200 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| Vinyl chloride | 0.2 | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U | | ND | A2, U, D | | ND | A2, U, D | |
| | | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | 7.5 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| 2,4,5-Trichlorophenol | 400 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| 2,4,6-Trichlorophenol | 2 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| 2,4-Dinitrotoluene | 0.13 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Hexachlorobenzene | 0.13 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Hexachlorobutadiene | 0.5 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Hexachloroethane | 3 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| meta/para-Cresol | 200 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Nitrobenzene | 2 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| o-Cresol | 200 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Pentachlorophenol | 100 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Pyridine | 5 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Total Cresols | 200 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| | | | | | | | | | | | | | | | | | | | |
| Endrin | 0.02 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| gamma-BHC | 0.4 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Heptachlor | 0.008 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Heptachlor epoxide | | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Methoxychlor | 10 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Technical Chlordane | 0.3 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| Toxaphene | 0.5 | ND | U | | ND | U | | ND | U | | ND | U | UJ | ND | U | | ND | U | |
| | | | | | | | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 10 | ND | | UJ | ND | | UJ | ND | | UJ | ND | | UJ | ND | | | ND | | |
| 2,4-D | 1 | ND | | UJ | ND | | UJ | ND | | UJ | ND | | UJ | ND | | | ND | | |

APPENDIX E

COMPLETE LAB DATA PACKAGE

See attached electronic CD